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LAHEY CLINIC NUMBER

The June Number of the *Surgical Clinics of North America* is from the Lahey Clinic, Boston. This is always a very important and much sought number. This year it includes two Symposia: 1—*Postoperative Complications;* 2—*Gastro-intestinal Surgery*—and in addition *eight other Miscellaneous Clinics.*

The Symposium on *Postoperative Complications* comprises 15 Clinics covering such subjects as Postoperative Complications of Thyroidectomy, Postoperative Problems from the Internist's Point of View, Complications after Mikulicz type of Resection, Prevention and Management of Postoperative Pulmonary Complications, Treatment with Penicillin of Dental Infections in Addison's Disease, Causes of Fever following Abdominal Operations, etc.

Included in the Symposium on *Gastro-intestinal Surgery* are clinics on Surgical Management of Chronic Peptic Ulcer, Duodenal Diverticulum Simulating Gallbladder Colic, Indications for and Technic of Total Colectomy for Ulcerative Colitis, Management of Gastro-intestinal Hemorrhage, Intestinal Obstruction Caused by Impacted Gallstone, Tumors of Stomach, Postoperative Perineal Hernia Following Resection of Rectum, etc.

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PUBLIC HEALTH VENEREAL DISEASE CONTROL

THE PRIVATE PHYSICIAN'S INCREASING RESPONSIBILITY

A REPORT OF THE SUCCESS OF PHILADELPHIA'S COOPERATIVE PLAN

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PHILADELPHIA

Since the report of the joint County Medical Society Health Service survey, conducted three years ago in Philadelphia,[1] an active effort has been made to elicit the interest of the private physician in the treatment of venereal disease. The apparent success of the plan is the subject for this discussion.

Any plan for the control of the venereal diseases which does not take into full account the medical resources of the body of the profession cannot be successful, except in part. This was recognized in the "preamble" of the purposes of the venereal disease control program as they might affect the private physician,[2] set forth in the 1936 Washington conference and in numerous other statements made at that time and since both local and nationwide in their scope, California,[3] Kansas,[4] Michigan,[5] Ohio,[6] Alabama,[7] North Carolina,[8] Delaware,[9] Illinois,[10] Connecticut[11] and others.[12] The need of decentralization[13] has long been recognized, both because of the local character of the venereal disease problem,[14] the need for patient individualization and the importance of treatment in rural areas[15] where large scale clinic practice is not possible.

Even in densely populated areas the concentration of the public health management of gonorrhea and syphilis into a single center or centrally placed group of clinics, while efficient and economical for those who attend, will reach only a small portion of those infected. Intensive methods of treatment requiring hospitalization thus far available for syphilis are to be used only in certain stages of the disease (primarily early syphilis), whereas the bulk of syphilis in the community is symptomatic of latent late syphilis. Except for the sulfonamide resistant, treatment of patients with gonorrhea is better accomplished in the physician's office than in the average clinic.

As the magnitude of the case finding problem for gonorrhea and syphilis is more clearly defined, and as the vast amount of hidden venereal disease, unknown to any treatment source, becomes apparent, the necessity of using every community resource becomes obvious (compare Vonderlehr and Usilton,[16] whose material concerning attack rates for syphilis in the general population was derived in part from the Philadelphia survey). The war effort, with its many physician shortages merely serves to emphasize this statement (compare Lahey[17]) and to make it apparent that "the physician who manages venereal disease privately or in the clinics assumes a place equal in importance to that of the health officer."[18]

The 1940-41 survey in Philadelphia[1] showed a discrepancy between the treatment prevalence of syphilis (for the age group 21 to 35 years) and the actual prevalence of the disease as shown by selective service blood tests of 400 per cent. The treatment prevalence rates were 2.1 and 42.1 per thousand for white and Negro males respectively, while the actual prevalence as shown by blood serologic tests were 10.3 and 193.9 per thousand. In commenting on this situation, Ingraham[19] remarks "We are just beginning to learn that hardly one fourth of the people with syphilis in the community

From the Philadelphia Department of Public Health (Rufus S. Reeves, M.D., director), and the Philadelphia County Medical Society.

1. Ingraham, N. R., Jr.: Summary of United States Public Health Service Survey of Venereal Disease Under Treatment in Philadelphia, 1940-1941, Pennsylvania's Health **3:** 39 (April) 1942.
2. Wile, U. J.: Cooperation of the Private Physician in the Control of the Venereal Diseases, Ven. Dis. Inform., 1937, supp. 3, p. 103.
3. Morrow, H.: Physician's Activities in the Field of Medicine (Venereal Disease Control Program in California), California & West. Med. **48:** 402 (June) 1938.
4. Van Cleve, J. V., and Miller, C.: Syphilis Control in Sedgwick County, J. Kansas M. Soc. **39:** 254 (June) 1938.
5. Keim, H. L.: Application of the Survey to the Private Practitioner, J. Michigan M. Soc. **37:** 607 (July) 1938. Breakey, R. S.: Program for Control of Genito Infectious Diseases in Ingham County, Mich, ibid. **37:** 611 (July) 1938.
6. Cummer, C. L.: What Part Shall the Practicing Physician Take in the Campaign Against Syphilis? Ohio State M. J. **34:** 1101 (Oct.) 1938.
7. Weil, C. K., and Smith, W. H. Y.: Syphilis in Private Practice: Case Reports Illustrating Problems in Management, J. M. A. Alabama **9:** 43 (Aug.) 1939.
8. Callaway, J. L.: Control of Syphilis: The Practitioner's Problem, South. M. & S. J. **102:** 698 (Dec.) 1940.
9. Hynson, T. E.: Venereal Disease and the General Practitioner, Delaware State M. J. **13:** 164 (Aug.) 1941.
10. Soloway, H. M.: Report of the Cooperative Program for the Control of Syphilis by the General Practitioner and the Illinois Department of Public Health, Illinois M. J. **81:** 118 (Feb.) 1942.
11. Talbot, H. P.: The Problem of Syphilis and Gonorrhea in Wartime: A Challenge to the Medical Profession, Connecticut M. J. **6:** 955 (Dec.) 1942.
12. Barnett, E. W.: The Role of the Physician in the Control of Syphilis, Ven. Dis. Inform. **20:** 75 (March) 1939.
13. Stokes, J. H.: A Hilltop on the Syphilologic Marne, Am. J. Syph., Gonor. & Ven. Dis. **20:** 231 (May) 1936; The Education of the Physician and the Movement for Venereal Disease Control, in The Control of Syphilis: A Symposium, Ven. Dis. Inform. 1936, supp. 2, p. 50.
14. Batelli, C. F., and Hiscock, I. V.: Syphilis Control in New Haven, Yale J. Biol. & Med. **10:** 411 (March) 1938.
15. Mickley, J.: The Management of Syphilis in Country Practice, South. Med. & Surg. **100:** 273 (June) 1938.
16. Vonderlehr, R. A., and Usilton, L. J.: The Extent of the Syphilis Problem at the Beginning of World War II, Am. J. Syph., Gonor. & Ven. Dis. **27:** 686 (Nov.) 1943.
17. Lahey, F. H.: The Private Physician Today in the Control of the Venereal Diseases, Ven. Dis. Inform. **23:** 85 (March) 1942.
18. Vonderlehr, R. A.: Individual Support in the Unified Wartime Venereal Disease Control Program, Am. J. Syph., Gonor. & Ven. Dis. **26:** 661 (Nov.) 1942.
19. Ingraham, N. R., Jr.: The Venereal Disease Control Program in Philadelphia, Tr. & Stud., Coll. Physicians, Philadelphia **11:** 10 (April) 1943.

are receiving essential medical care and that a much smaller, though less clearly defined, percentage of individuals with gonorrhea ever apply to a physician or clinic for treatment."

As these previously undiscovered cases, numbering in the tens of thousands for a densely populated area like Philadelphia, are brought under medical care by wartime stimulated routine blood serologic tests and through epidemiology based on military source of infection reports, it is evident that no overcrowded system of clinics could be expected to bear the strain without enormous and almost unheard of expansion. Participation by the majority of physicians in the community in a program which would include the treatment by each of even 2 or 3 additional venereal disease patients annually would care for many thousands of individuals with no great strain on any medical resource.

The most outstanding programs of private physician and health department cooperation with reported results are those of Ingham County, Mich.,[20] and of New York City.[21] We have drawn freely from the experience of both these successful experiments and from Casselman's [22] studies, with which one of us has had personal contact. Similar methods of professional and lay education, consultation and laboratory service and distribution of free drugs have been adopted here as in the programs just referred to.

In the matter of referring patients to private physicians our procedure has been a little more highly developed, a result, in all probability, of circumstances brought about by different local conditions and of changing economic circumstances of many of the infected patients, incident to war conditions. We found an appeal to the physicians of the community through *Philadelphia Medicine,* the weekly roster of the County Medical Society, to accept in their private practices additional patients on a low fee basis, both fruitless and, as shown by subsequent study of the incomes of the groups to be served and experience with referring them for medical care, unnecessary. Only 40 physicians responded in a medical population of about 3,500, totally insufficient to meet the community problem from the standpoint both of the volume of patients to be cared for in private practice and of the number of localities within the city to be serviced.

It was evident that the truly indigent patient could be cared for more economically and with much less trouble to all concerned in the public health clinics and that, moreover, there were ample numbers of full pay patients more than to satisfy available private resources. The problem became one, therefore, of interesting large numbers of the medical profession in venereal disease control and of classifying them in a way in which they could be of maximum use to the various professional agencies which would be likely to refer patients for private medical care.

Experience within the health department and the clinics had shown that it is completely unsatisfactory in a densely populated area like Philadelphia where hundreds of physicians are concerned, many of them specialists, merely to tell the prospective patient to go to his family physician. With the increase in population shifts because of war, patients unfamiliar with the community need guidance even in making that initial contact with the medical profession. Studies within Philadelphia showed that 36 per cent of the practicing physicians do not treat venereal disease at all and only 53 per cent of the remainder treat all types of gonorrhea and syphilis, 47 per cent certain aspects only.[23] In referring patients to private physicians, moreover, we were concerned not only with the patient who applies at the public health clinics but also with patients who apply to some 60 other treatment centers within the community and to about 250 different social agencies. When the physician's list was finally prepared in pamphlet form for distribution only to the professional agencies, 3,000 copies were utilized in the course of a year. To show something of the magnitude of the referral problem and the number of individuals concerned: A single agency, the Division of Medical Inspection of the Public Schools, with its nursing, social work and counseling staff, had need of 250 physicians' lists to supply adequately all individuals who might be concerned with venereal disease problems among the pupils in the various places throughout the city.

In short, a direct appeal was made by letter jointly sponsored by the county medical society and the Department of Public Health, based on the vast community problem previously defined and the importance of an adequate control of the venereal diseases in the civilian population, to the war effort. Approximately 2,500 physicians responded, and three fourths of those who treated gonorrhea or syphilis (1,164 physicians in all) agreed to have their names published "for use by the health department and other professional agencies for purposes of facilitating proper community patient referral mechanism." These physicians were classified as to the type of diseases treated and in accordance with the location of their office into one of ten districts within the city. All sections of the city were adequately serviced. The physicians' names and instructions were published in the Aug. 1 and Aug. 8, 1942 issue of *Philadelphia Medicine* and reprinted for distribution.

RESULTS OF SURVEY

The remainder of the paper interprets the results obtained in a survey conducted conjointly by the Philadelphia Department of Public Health and the Committee on Venereal and Cutaneous Diseases of the Philadelphia County Medical Society, during the fall of 1943. The purpose of the survey was to learn the effectiveness of the effort to direct in an orderly fashion the venereal disease patients newly discovered through the war impetus to private medical practice. Improved economic circumstances of many of the patients seeking medical care for gonorrhea and syphilis in Philadelphia within the last two years has made it evident that more and more individuals can afford the full cost of treatment. Although exact information on this point is difficult to obtain, there is every reason to believe that the findings of the 1940-41 survey,[1] which showed "58 per cent of all patients with gonorrhea and syphilis receiving treatment in Philadelphia had incomes of less than $1,000" a year, are invalid at the present time.

In 1940, 78.6 per cent of the private physicians in Philadelphia had no cases of gonorrhea or syphilis under

20. Aselmeyer, A. J., and Usilton, L. J.: The Venereal Disease Problem: Its Prevention and Control in Ingham Co., Michigan, J. Michigan M. Soc. **37:** 597 (July) 1938.

21. Clarke, C. W., and Rosenthal, T.: The Private Physician's Role in the New York City Syphilis Control Activities, J. A. M. A. **111:** 2287 (Dec. 17) 1938.

22. Casselman, A. J.: Service Provided Physicians by the Health Department, Ven. Dis. Inform. **19:** 159 (June) 1938.

23. Greenbaum, S. S., and Ingraham, N. R., Jr.: Report on Recent Questionnaire Sent to Philadelphia Physicians Concerning Treatment of Venereal Disease Patients in Private Medical Practice, Philadelphia Med. **37:** 1533 (Aug. 1) 1942.

treatment during the period of the survey and, moreover, about 60 per cent of the private venereal disease patients were under the care of 5 per cent of the doctors. These percentages may be compared to those of the Ingham County, Mich., study previously mentioned,[20] in which 65 per cent of the physicians had at least 1 venereal disease patient during the period of the survey and only 27 per cent of the general practitioners had no cases. One of the most important recommendations of the joint committee of the Philadelphia County Medical Society and the local, state and federal health services was "the development of the potentially great but at present too little used resources in private medical practice."[24] The 1940-41 survey had shown that the standard of medical practice and case holding power afforded by the private physicians was at least equal to and in many respects superior to that afforded by the average clinic.

In 1943, whereas 9 per cent of the practicing physicians of the community cared for 69 per cent of the 10,736 new patients with gonorrhea and syphilis treated in private practice, the remaining 31 per cent were distributed among approximately one half of the practicing physicians. In the three year period (1940-43) the number of physicians participating actively in the Venereal Disease Control Program has almost doubled.

The active effort to bring about a fuller utilization of private medical practice in the treatment of venereal disease patients consisted primarily in (1) an open appeal to all the physicians in the community to take a more active interest in the management of venereal disease patients, (2) preparation of the physicians' list just described, (3) a persistent policy on the part of the health department to place under private medical care whenever possible the large numbers of patients disclosed by the enormous amount of current routine serologic testing in industry, by selective service examinations and by the investigation of sources of infection named through the military and other epidemiologic reports and (4) active efforts to bring the most recent authoritative information concerning local venereal disease control problems both to the medical profession and to the lay public. The U. S. P. H. S. publication *Venereal Disease Information* was sent to all cooperating physicians whose names were published in the list for distribution to the referral agencies. This group was also freely circularized with pertinent facts concerning the Philadelphia problem. The preparation of this list of physicians made possible for the first time a well coordinated plan of cooperation between the private practitioner, the health department and the clinics, which was never possible with the older method of merely telling the patient to go to his family physician if for any reason he was considered ineligible for clinic care. The general response of the practicing physicians has made the referral of patients entirely practical.

The preparation of this bulletin of available physicians in 1942 showed that, in contradistinction to the 1940 survey, which indicated that only 21 per cent of the private physicians were treating gonorrhea or syphilis in private practice, 1,579, or about one half of the practicing physicians, were willing to treat these diseases, and 74 per cent of these were glad to have their names published for referral purposes. The 1943 survey shows that this effort to direct patients properly to private medical care has succeeded in a very considerable degree and really far beyond the expectation of those who were responsible for initiating the plan.

The preparation of this large list of cooperating physicians has been of inestimable value to the Department of Public Health and the county society, since it has clearly defined the groups of individuals concerned with the treatment of venereal disease not only in the clinics but also in private practice and has made it possible to develop a degree of cooperation with this smaller vitally interested group which would never have been possible in dealing with the profession as a whole, fully half of which has no direct interest in the public health venereal disease problem.

The 1943 survey concerned only those physicians who were known to accept venereal disease patients in private practice. Of the original 1,579 physicians in this category, 1,374 remained in active practice in Philadelphia, the majority of those not at present available being in military service. Of the 986 physicians who had their names published in the bulletin as treating patients with gonorrhea or syphilis, 745 (76 per cent) replied. Of the 388 physicians who are known to treat venereal disease but who did not desire to have their names published, 257 (66 per cent) replied. The smaller percentage of returns from the latter group of physicians possibly indicates less interest in this survey and might be expected from the fact that their names were not published. Notwithstanding the great increase in the demands on the time of all practicing physicians as a result of the war, the percentage returns with this questionnaire were higher in both groups than with the 1942 survey, in which there were 63.4 per cent returns. This may mean a general increase in interest in the venereal disease problem on the part of the medical profession as a whole.

TABLE 1.—*Physicians' Opinions as to Amount of Venereal Disease Seen in Private Practice in 1943 as Compared with Two Previous Years*

Amount of Venereal Disease Seen in Private Practice	Physicians Who Had Their Names Published		Physicians Who Did Not Have Their Names Published	
	Number	Per Cent	Number	Per Cent
1. More venereal disease	160	21.5	6	2
2. Less venereal disease	505	68	160	63
3. Same	4	0.5	...	..
4. No opinion	76	10	91	35
Total	745	100.0	257	100

There is some indication that the publication of the physician's name has resulted in an increased referral of venereal disease patients. The first question asked the physician whether he felt he had seen more venereal disease in his private practice in the last year (since the publication of the bulletin) than in the preceding years. The replies are summarized in table 1. This table shows that the physicians who had their names published were approximately ten times more likely to note an appreciable increase of venereal disease patients in their private practices than those who did not have their names published. It indicates, we believe, moreover that this bulletin was utilized and that it has proved to be an effective method of properly directing patients to private medical care.

It will be noted that approximately two thirds of the physicians in each group have seen an apparent decrease in venereal disease patients in their private practices. Superficial consideration of this situation might seem to indicate that, assuming an equal or increased amount of

24. Gueguierre, J. P.; Weaver, R. H.; Ingraham, N. R., Jr., and Bruyere, P. T.: Recommendations for Improvement of Venereal Disease Control in Philadelphia, Pennsylvania's Health **3**: 41 (April) 1942.

venereal disease under treatment in the community, which is actually the fact, patients are being drawn from private practice in favor of hospital or public health clinics. Careful analysis shows, however, that this impression results from a rearrangement in the distribution of patients rather than from a decrease in the total number of patients under private medical care. In 1940, 698 private physicians had under their care an average of 1,646 cases of syphilis and 593 cases of gonorrhea, totaling 2,239, or 3.2 cases per physician. In 1943, 1,002 physicians had under their care an average of 3,063 cases of syphilis and 773 of gonorrhea, totaling 3,836, or 3.8 cases per physician (compare tables 2 and 3). This indicates that from the standpoint of the community as a whole the published physicians' list has resulted in a more complete utilization of the private medical resources of the community, in that a larger number of physicians by 44 per cent now are treating venereal disease patients than in 1940. This increase is further emphasized by the fact that the war has left

TABLE 2.—*Treatment Prevalence of Syphilis in Philadelphia, Showing Increase in Total Number of Patients Receiving Medical Care at Any One Time Since 1940 and Relatively Greater Increase in Private as Opposed to Clinic Practice*

	1940-1941		1943		Percentage Increase Over 1940
Patients Receiving	Number	Per Cent	Number	Per Cent	
1. Private medical care..	1,646	18	3,063	26	86
2. Medical care in clinics	7,500	82	8,549	74	14
Total.....	9,146	100	11,612	100	26

TABLE 3.—*Treatment Prevalence of Gonorrhea in Philadelphia, Showing Relative Increase in Patients Receiving Private Medical Care Since 1940*

	1940-1941		1943		Percentage Increase or Decrease Over 1940
Patients Receiving	Number	Per Cent	Number	Per Cent	
1. Private medical care..	593	39	773	65	+30
2. Medical care in clinics	928	61	420	35	−54
Total.....	1,521	100	1,193	100	−22

approximately 20 per cent less practicing physicians in the community than was the case three years ago. It is suggested, moreover, that the increase in venereal disease patients in private practice of some of the physicians has been very considerable.

The trend of venereal disease patients toward private practice is further emphasized by a study of tables 2 and 3, showing the comparative treatment prevalence of syphilis and gonorrhea in the clinics and private practice in 1940 and 1943. For syphilis, while the total known treatment prevalence for Philadelphia increased about one fourth, the percentage of patients receiving private medical care for this disease has increased from 18 to 26, almost twice as many syphilitic patients being under private medical care now as in 1940.

The increase in total number of syphilitic patients receiving medical care during 1943 does not necessarily indicate an increase in the attack rate of this disease in the community but rather a depletion of the enormous reservoir of previously undiagnosed syphilis which has been brought about by the discovery of new cases through the more general application of routine blood serologic tests. At the present time about 16 per cent of those so discovered have early syphilis (i. e. syphilis of less than four years' duration), the remainder either symptomatic or latent late syphilis.

Other data collected in this survey but not tabulated shows that, of the 12,438 patients with syphilis treated for the first time in 1943, 5,649 (45.4 per cent) received treatment from private physicians.

These figures may be compared with the report of Parran [25] (1938) for the country as a whole indicating that "one half of all practicing physicians are constantly treating 1 or more cases of syphilis, accounting for 59 per cent of the total cases receiving therapy"; and to New York City,[26] where in 1941 32.2 per cent of all reported venereal disease (40,311 cases) was by private physicians (40 per cent of the syphilis and 20 per cent of the gonorrhea). In rural areas a greater percentage is normally receiving private medical care than in cities. Thus, in a report from Oakland County, Mich.,[27] in 1937, 57 per cent of the syphilis was being treated by private practitioners.

Similar trends to those of syphilis may be recognized for gonorrhea in Philadelphia. Table 3, for example, shows a 30 per cent increase in the total number of gonorrhea patients under private medical care at any one time in 1943 as compared with 1941. The decrease in total treatment prevalence of gonorrhea in the community does not necessarily indicate a decrease in the amount of gonorrhea in Philadelphia. Instead it may result from the fact that, because of induction of physicians into military service, it was necessary to shut down almost completely two of the largest clinics in Philadelphia, thus greatly decreasing the total clinic load. This fact merely serves to emphasize the statements previously made as to the urgent necessity of utilizing to the best advantage all the private medical resources of the community during wartime.

SUMMARY

1. There is a definite increase in venereal disease patients receiving private medical care in Philadelphia. The private practice treatment prevalence for syphilis has increased 86 per cent since 1940 and for gonorrhea 30 per cent in the same period. This is the result of increased case finding incident to the war and of increase in the economic status of many of the venereal disease patients seeking medical care. It is probable that this is a national trend, not peculiar to any one locality.

2. The publication of the "Bulletin of Physicians in Philadelphia who will Accept for Examination and Treatment in Private Practice Patients with Gonorrhea or Syphilis" has resulted not only in an orderly and controlled redistribution of patients who are public health problems but also in an increased participation in the program by the private physician. This is shown by a 44 per cent increase in the number of physicians known to be caring for gonorrhea and syphilis patients in private practice as well as an increase in the average number of patients under the care of a single physician at any one time. There is a need for the development, in all areas where this trend of venereal disease patients to seek private medical care is apparent, of a mechanism for conducting this interchange in an orderly manner. Otherwise many patients, some of whom will be public health problems, will be lost in the transfer, and the general public health of the community will suffer.

25. Parran, T.: Syphilis and the Medical Practitioner, Rocky Mountain M. J. **35**: 595 (Aug.) 1938.

26. Rosenthal, T., and Kerchner, G.: Venereal Disease Case Reporting—New York City, 1941, Ven. Dis. Inform. **23**: 330 (Sept.) 1942.

27. Roehm, H. R.; Wagley, P. V.; Monroe, J. D., and Hammonds, E. E.: A Survey of Syphilis in Oakland County in 1937, J. Michigan M. Soc. **37**: 618 (July) 1938.

PRODUCTION OF POTENT INACTIVATED VACCINES WITH ULTRAVIOLET IRRADIATION

II. AN ABBREVIATED PRELIMINARY REPORT ON STERILIZATION OF BACTERIA AND IMMUNIZATION WITH RABIES AND ST. LOUIS ENCEPHALITIS VACCINES

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In another publication we [1] described a new method for completely killing or inactivating turbid suspensions of bacteria and viruses in a fraction of a second by exposing continuously flowing thin films with a depth of less than 1 mm. to a newly developed lamp which is a powerful source of both total and extreme (below 2,000 angstroms) ultraviolet. It was emphasized that bacteria and viruses could be rapidly inactivated by this technic with a minimum loss of antigenicity, while the usual methods of inactivation (heat and various chemicals) unduly destroy the antigenic properties. Furthermore, the conditions of irradiation were standardized with respect to intensity of irradiation, distance from energy source, film thickness and time of exposure, so that experiments could be repeated with consistent results. This paper is a preliminary condensed report presenting results using the new technic of ultraviolet irradiation on (1) inactivation of various bacteria and viruses and (2) immunization with avirulent rabies and St. Louis encephalitis vaccines. The complete paper will appear elsewhere.

The lethal effect of ultraviolet irradiation on bacteria and viruses has been demonstrated repeatedly. Comparatively few studies have been made of the antigenicity of ultraviolet irradiated bacteria and viruses.[2]

Since 1937 there have been reports by Hodes, Lavin and Webster,[3] by Webster and Casals,[4] by Salk and others [5] and by Morgan and Lavin [6] that good vaccines have been prepared by ordinary ultraviolet irradiation against rabies, influenza and equine encephalomyelitis.

A cardinal principle in successful vaccine production is the proper exposure of the infectious agent to the irradiation. Inadequate irradiation will not completely sterilize or inactivate; overirradiation will destroy the immunogenic properties of the vaccine. The technic employed in the past by other workers was such that it was impossible to avoid overirradiation of a large part of the suspension while inactivating the whole. Furthermore, there was no possibility for constancy of results, either in time or in product. Such variation, inconstancy and unreliability kept the method from being practical for the production of uniformly safe and potent vaccines.

INACTIVATION OF BACTERIA

Approximately 150 inactivation experiments have been completed. The various species of bacteria studied were eighteen to twenty-four hour Kolle flask agar or broth pure cultures grown at 37 C. and resuspended in distilled water. Suspensions containing approximately 1 billion organisms per cubic centimeter of the following bacteria were repeatedly sterilized by ultraviolet irradiation with the method described in 0.17 to 0.33 second exposure: (1) Escherichia coli, (2) Eberthella typhosa (strain 58), (3) Salmonella enteritidis,[7] (4) Staphylococcus aureus, (5) Streptococcus viridans and (6) Diplococcus pneumoniae (type 1). The viability of each was tested both by plating in triplicate on nutrient or blood agar and by inoculation of several kinds of suitable liquid culture mediums and incubating at 37 C. for seven days. Further tests for inactivation were carried out by animal inoculation in the case of the pathogenic species.

Two commercial lamps (Westinghouse sterilamp and Hanovia cold quartz) tested under identical conditions using a suspension of Escherichia coli containing approximately 1 billion organisms per cubic centimeter as the test organism, killed 18 to 20 per cent of the bacteria, while the new ultraviolet lamp killed 100 per cent. A third commercial lamp (Hanovia mercury uviarc s500), which killed 98 per cent of the bacteria, generated a tremendous amount of heat, so that much of the bactericidal effect was due to heat inactivation. This was proved by blowing a stream of cooling air over the lamp, and its killing effectiveness promptly decreased.

INACTIVATION AND ANTIGENICITY OF VIRUSES

Rabies Virus.—The S-1 strain of fixed virus of the Illinois Department of Public Health was used in all rabies experiments. Both rabbit and mouse brains infected with rabies virus were studied. The average infective titer of pooled rabbit brains was 10^{-6}, while the mouse brains usually titered 10^{-7}. In repeated experiments we were able to inactivate completely 4 per cent uncentrifuged mouse and rabbit brain suspensions infected with rabies virus by single exposures for 0.17 to 0.33 second. Standard tests for inactivation, in accordance with the requirements of the National Institute of Health, were used. Additional intracerebral inoculations in mice were done. All animals were observed daily for thirty days. In several instances further tests for inactivation were performed by killing 3 or 4 random mice on the sixth day after inoculation and passing a 20 per cent pooled suspension of their brains to 6 additional mice by intracerebral inoculation. The Habel mouse test,[8] recommended by the National Institute of Health, was employed for testing the immunizing potency of the various rabies vaccines

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2. Norton, J. F.: The Action of Ultraviolet Light on Bacteria and Their Products, in Jordan, E. D., and Falk, I. S.: Newer Knowledge of Bacteriology and Immunology, Chicago, University of Chicago Press, 1929, p. 371.

3. Hodes, H. L.; Lavin, G. I., and Webster, L. T.: Antirabic Immunization with Culture Virus Rendered Avirulent by Ultraviolet Light, Science **86**: 447-448 (Nov. 12) 1937.

4. Webster, L. T., and Casals, J.: An Improved Nonvirulent Rabies Vaccine, Am. J. Pub. Health **32**: 268-270 (March) 1942.

5. Salk, J. E.; Lavin, G. I., and Francis, T., Jr.: The Antigenic Potency of Epidemic Influenza Virus Following Inactivation by Ultraviolet Irradiation, J. Exper. Med. **72**: 729-745 (Dec.) 1940.

6. Morgan, I. M., and Lavin, G. I.: Immunizing Capacity of Virus of Eastern Equine Encephalomyelitis Inactivated by Ultraviolet Light. Proc. Soc. Exper. Biol. & Med. **47**: 497-499 (June) 1941.

7. Identification checked by Dr. P. R. Edwards of the Salmonella Center in Lexington, Ky.

8. Habel, K.: Evaluation of a Mouse Test for the Standardization of the Immunizing Power of Anti-Rabies Vaccines, Pub. Health Rep. **55**: 1473-1487 (Aug. 16) 1940.

studied. Several lots of irradiated vaccines were compared with phenolized control vaccines and Illinois Department of Public Health phenolized vaccines of approximately the same age and prepared with the same strain of virus according to the Semple method. A summary of the results obtained in several comparative immunization studies is outlined in table 1.

It is well known that phenolized rabies vaccines rapidly deteriorate on storage at icebox temperatures.[9] The immunizing titer of three lots of irradiated vaccine stored at 5 C. and tested at various intervals by the Habel mouse test is shown in table 2. These vaccines contained 1 : 10,000 merthiolate as a preservative.

St. Louis Encephalitis Virus.—The Hubbard strain was used in the inactivation and immunization studies for the St. Louis encephalitis virus. The average infective titer of this strain in mice was 10^{-7}, but occasionally it reached 10^{-8}. In repeated tests 4 per cent lightly centrifuged mouse brain suspensions of St. Louis encephalitis virus were inactivated by exposures of 0.33 to 0.66 second. Tests for inactivation consisted of inoculating the undiluted irradiated material intracerebrally into each of 10 Swiss mice. Five mice were routinely killed on the tenth day after inoculation, and their brains were passed to an additional 6 mice by the intracerebral route.

Sabin and his associates[10] have recently reported negative results in attempts to produce a vaccine for St. Louis encephalitis virus inactivated by ultraviolet rays.

We have prepared two lots of St. Louis encephalitis vaccine which stimulated immunity in mice against 400,000 to 500,000 minimum lethal doses of active virus given intracerebrally. The mice were injected intraperitoneally with 0.5 cc. of irradiated vaccine (4 per cent) at weekly intervals for three doses and given the challenge dose of homologous virus twenty days after the first dose of vaccine. Rapid immunogenic destruction of this virus vaccine was caused by over-irradiation.

TABLE 1.—*Summary of Experiments on Relative Immunizing Value of Irradiated and Phenolized Rabies Vaccines Tested by the Habel Mouse Test*

Experiment No.	Vaccine	Time of Irradiation for Complete Inactivation	No. of MLD Protection
76	Irradiated	0.33 sec.	56,000
	Irradiated *	0.17 sec.	20,000
	Phenolized control	.....	76
92	Irradiated	0.17 sec.	27,620
	Phenolized control	.....	10
	Illinois Health Dept., phenolized	.....	849
101	Irradiated	0.33 sec.	125,581
	Phenolized control	.....	2,477
	Illinois Health Dept., phenolized	.....	9,130
92 A	Irradiated	0.33 sec.	33,812
	Illinois Health Dept., phenolized	.....	6,169

* Centrifuged at 500 revolutions per minute for five minutes before irradiation.

ANTIGENICITY OF IRRADIATED BACTERIAL VACCINES

We have prepared killed vaccines for typhoid, pneumococcus (type 1) and Salmonella enteritidis. In preliminary scout experiments they appear to be equal or superior in antigenic potency to heat killed vaccines prepared from the same bacterial suspensions. This work is now in progress, and details will be published later.

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10. Sabin, A. B., and others: The St. Louis and Japanese B Types of Epidemic Encephalitis: Development of Noninfective Vaccines: Report of Basic Data, J. A. M. A. **122**: 477-486 (June 19) 1943.

SUMMARY AND CONCLUSIONS

1. A new method has been developed for completely killing or inactivating turbid suspensions of bacteria and viruses in less than one second by exposing continuously flowing thin films to far and extreme ultraviolet irradiation. Intensity, film thickness, time of exposure and distance have been so standardized that experiments could be duplicated with consistent results.

TABLE 2.—*Effect of Storage at 5 C. on the Antigenicity of Irradiated Rabies Vaccine*

Lot No.	Time	No. of MLD Protection
92	3 weeks	27,260
	5 months	33,812
	6 months	35,061
99	5 weeks	75,385
	6 months	68,100
100	2 weeks	120,004
	6½ months	136,200

2. By means of this new technic, suspensions containing approximately 1 billion organisms per cubic centimeters of the following bacteria were completely killed in 0.17 to 0.33 second exposure to ultraviolet rays: (1) Escherichia coli, (2) Eberthella typhosa (strain 58), (3) Salmonella enteritidis, (4) Staphylococcus aureus, (5) Streptococcus viridans and (6) Diplococcus pneumoniae (type 1).

3. Four per cent uncentrifuged brain tissue suspensions infected with fixed rabies virus were completely inactivated by irradiation for 0.17 to 0.33 second; an exposure twice this length was necessary to inactivate lightly centrifuged 4 per cent suspensions of St. Louis encephalitis virus.

4. Several lots of rabies vaccine inactivated by this irradiation technic consistently induced a higher degree of immunity in mice than control phenolized vaccines. The irradiated rabies vaccines exhibited no significant loss of potency after six months' storage at 5 C.

5. Two lots of St. Louis encephalitis vaccine inactivated by this irradiation technic conferred a high degree of immunity in mice.

6. Irradiation of rabies or St. Louis encephalitis viruses beyond the optimum time necessary for complete inactivation causes progressive diminution of antigenicity.

Food Value of Cheese.—Cheese is a highly nutritious, economical food. It is rich in protein, fat and mineral elements. The amount of protein and fat in a pound of good cheese equals that of a gallon of milk and appreciably exceeds that of the same weight of the best steak. The protein is of high quality; it consists largely of casein which in the ripening process has been partially digested. About 69 per cent of the nitrogen of ripened cheese (six months) is in soluble form. The fat of cheese is easily assimilated and differs but little in character from that of milk; its amount depends largely on whether whole or skim milk was used in the making. Cheese retains the calcium, phosphorous and sulfur of the milk and also appreciable amounts of iron and of vitamin A and B_2. It is a valuable article of diet.—McLester, James S.: Nutrition and Diet in Health and Disease, Philadelphia, W. B. Saunders Company, 1943.

THE PROBLEM OF THERMAL BURNS: 1944

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Before 1939 an average of 5,000 to 7,000 burn deaths occurred in the United States every year.[1] The present war has resulted in an unprecedented number of thermal burns, so that this subject is now in a phase of especial importance.

Burn treatment has always been somewhat empiric. The peculiar nature of the burn wound, representing as it does an actual destruction of tissue, renders no treatment completely effective. Because of this fact literally hundreds of burn remedies have been suggested. It is only recently that some order has come out of all this confusion. Possibly the two chief advances that have led to this are (1) the introduction of plasma therapy by Weiner, Rowlette and Elman [2] in 1936 and (2) the application of the method of aseptic pressure dressings in local burn therapy by Koch [3] in 1941. It is interesting to note how these two advances dovetail, indicating the essential unity of all burn therapy. The use of plasma is essentially a general treatment and pressure dressings are a type of local treatment, yet part of the benefit of the latter comes from reducing plasma loss and aiding the general condition of the patient. In fact it may be said that no good local burn treatment will neglect the general condition of the patient and vice versa.

The problem of thermal burns is essentially twofold: mortality and morbidity; the patient and the burn wound; general care and local management. Both of these are important and, as Pack [4] has so aptly said, "it is penny wise and pound foolish to consume invaluable time in applying perfect local dressings while the patient is sinking into irrecoverable shock." This symposium attempts to cover both of these aspects of burn treatment as completely as is possible in the space provided.

The following outline shows the division of the subject into seven articles:

1. The Problem of Thermal Burns: 1944. Henry N. Harkins, Johns Hopkins Hospital, Baltimore.

2. The Chemical Aspects of Burn Treatment. Oliver Cope, Massachusetts General Hospital, Boston.

3. The General Care of the Burned Patient. Conrad R. Lam, Henry Ford Hospital, Detroit.

4. The Present Status of the Tannic Acid Method in the Treatment of Burns. Walter E. Lee and Jonathan E. Rhoads, Pennsylvania Hospital, Philadelphia.

5. Surgical Cleanliness, Compression and Rest as Primary Surgical Principles in the Treatment of Burns. Sumner Koch, Northwestern University, Chicago.

6. The Early Plastic Care of Deep Burns. Fraser B. Gurd and John W. Gerrie, Montreal General Hospital and McGill University, Montreal.

7. The Late Plastic Care of Burn Scars and Deformities. John Staige Davis, Johns Hopkins Hospital, Baltimore.

The present article outlines the important questions pertinent to the subject at the present time, many of which are answered or clarified in the remaining articles. Newer knowledge of the underlying chemical changes in burns on which all treatment, local and general, is based forms the thesis of Dr. Oliver Cope's paper. The practical application of this knowledge to the all important subject of the general care of the burned patient is delineated by Dr. Conrad Lam. Drs. Walter Lee and Jonathan Rhoads discuss the present status of the treatment with tannic acid, which, after a meteoric rise in popularity following its introduction in 1925, was probably the most widely used remedy until its recent displacement by the pressure dressing method. The latter method is described by its originator, Dr. Sumner Koch. The early plastic care of granulations by skin grafting, without which the treatment of no extensive third degree burn is complete, is covered by Drs. Fraser B. Gurd and John W. Gerrie of Montreal. Finally the subject of the late plastic care of burn scars and deformities, which will be a very important one in the immediate postwar period, is outlined by Dr. John Staige Davis.

GENERAL CARE

Early General Care.—This involves the prevention and treatment of shock, toxemia and sepsis. During the first forty-eight hours shock is of prime importance and the use of plasma is the chief item in its treatment. Since its introduction in the treatment of clinical burns by Weiner, Rowlette and Elman [2] this method has become so widely adopted that arguments in its favor are no longer necessary. It is enough to say that since the chief element in the pathology of burns is an extensive plasma loss, both to the outside in the form of weeping and into the burned tissues, it is of great importance that this plasma should be replaced. In very serious burns the patient may lose several liters of plasma within a few hours. If plasma is not available, albumin or even whole blood may be given although the contained cells in the latter are not necessary.

Plasma administration in burns should be on a quantitative basis just as is insulin administration in diabetes. When laboratory facilities are not available, the following ways of gaging dosage are useful:

1. From the clinical response.

2. From the size of the burn as calculated by Berkow's formula.[5] Author's rule:[6] Give 50 cc. of plasma for every 1 per cent of body surface burned; after twelve hours additional plasma may be necessary.

If laboratory facilities are available, the following methods of estimating plasma dosage may be used:

1. Formula of Black.[7]

2. Formula of Elkinton, Wolff and Lee.[8]

3. Formulas of author.[9]

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This paper, in a symposium on "The Treatment of Burns," is published under the auspices of the Section on Surgery, General and Abdominal.

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9. Harkins, H. N.: The Treatment of Burns, with Particular Emphasis on the Management of Burn Shock, brochure distributed in connection with Scientific Exhibit at the meeting of American Medical Association, Cleveland, June 2-6, 1941; the General Treatment of the Patient with a Severe Burn.[8]

(*a*) One hundred cc. of plasma for every point hematocrit exceeds normal of 45.

(*b*) Fifty cc. of plasma for every point hemoglobin exceeds normal of 100.

(*c*) Fifty cc. of plasma for every 100,000 red count exceeds normal of 5 million.

4. Monogram of Jenkins, Schafer and Owens.[10]

In children the amount of plasma to be given should be proportionately less according to body weight. Furthermore, the calculations do not indicate the amount of plasma that will be needed to manage the entire course of the burn. Just as in a diabetic patient when the blood sugar indicates that 30 units of insulin is necessary, this does not mean that 30 units will suffice for a whole month, so in a serious burn case frequent determinations are essential. Hematocrit readings should be taken as often as every three hours during the first day after a severe burn and the amount of plasma indicated each time given. The danger of burn shock is not over until the thirty-sixth to the forty-eighth hour.

Other measures of possible value in burn shock include:

Sodium Lactate: Recent articles have drawn attention to the possible beneficial effects of sodium lactate in the treatment of burn shock. Rosenthal,[11] experimenting on mice, produced a standard burn by immersing the animals up to the neck in water at 70 C. for a measured period of seconds. A large series of mice was thus burned, and treated groups were compared with untreated controls as to mortality. Sodium chloride by mouth or intraperitoneally caused a significant reduction in mortality. Intravenous administration was less effective. Isotonic solution of sodium chloride by mouth was superior to hypertonic solutions. Sodium acetate, succinate, bicarbonate and lactate were as effective as sodium chloride. Mouse serum injected intravenously was slightly less active than equivalent volumes of 0.9 per cent sodium chloride orally. These results are of great interest especially as they do not agree with the present concept of the superiority of intravenous plasma or serum in the therapy of burn shock. The possibility arises that the results obtained on mice are not entirely applicable to man.

A more recent author, Fox,[12] however, has made the application to man and in a series of 23 severe third degree burns described the clinical use of isotonic solution of sodium lactate administered orally (instead of plasma injected intravenously) in combating burn shock. A careful record of fluid intake was made and an exact schedule used so that approximately 7 to 10 liters (from 10 to 15 per cent of body weight) of the isotonic sodium lactate was administered within the first twenty-four hours. Any vomiting such as occurs frequently in severe burns was treated by administration of more fluid. This work of Fox needs careful consideration, it is so revolutionary in its implications. The results seem good, and the obvious objection that only minor burns were treated is refuted by the charts which indicate extensive third degree burns. On the other hand, adequate studies of plasma volume in these cases were not reported, and the possibility that it may have been dangerously low is to be considered. At the present time sodium lactate would seem to offer promise as an adjuvant to plasma therapy rather than as a substitute for it. A further discussion of Fox's work is included in Dr. Cope's article which appears later in this symposium.

Gelatin: Parkins, Koop, Riegel, Vars and Lockwood[13] studied gelatin solutions as a plasma substitute in experimental burns. These authors found that in reproducible burns in dogs the mortality after gelatin therapy was over three times that which followed plasma therapy.

Adrenal Cortex Extract: Rhoads, Wolff and Lee[14] reported promising results from the use of this substance. They estimated that after a severe burn the capillaries do not regain their normal permeability until the fortieth hour, but after treatment with adrenal cortex extract such normality was attained by the eighteenth hour. A more recent report based on additional cases by Rhoads, Wolff, Saltonstall and Lee[15] reverses this opinion, stating that "the results in this larger series have not fulfilled the promise of the earlier cases. They do not provide a satisfactory basis for the use of adrenal cortical extract in the routine treatment of shock following burns." These clinical observations are corroborated by the experimental studies of Rosenthal,[11] who tested standardized burns in mice and found no protective action whatever by either desoxycorticosterone or adrenal cortex extract injected subcutaneously as compared with controls with saline solution.

Oxygen: This substance has considerable value in burns, especially in those instances in which coincidental pulmonary edema exists. This fact was especially observed in the Cocoanut Grove disaster as shown by Beecher.[16]

Morphine: The recent revised (1943) edition of the pamphlet distributed by the Medical Division of the Office of Civilian Defense[17] states, concerning the use of morphine, that "burned patients usually require large doses of morphine. Following the initial dose of one-half grain, an additional one-fourth grain may be given (if required) as often as every three hours, except in cases of lung damage." In this connection a word of caution is advisable, especially since it is the observation of some of us that burned patients often have relatively little pain after the first half hour. They may moan but when questioned do not always complain of pain. The word of caution comes from observations of Beecher[18] in the North African theater of

10. Jenkins, H. P.; Schafer, P. W., and Owens, F. M., Jr.: Guide to Replacement Therapy for Loss of Blood or Plasma, Arch. Surg. **47:** 1-3 (July) 1943.

11. Rosenthal, S. M.: Experimental Chemotherapy of Burns and Shock: III. Effects of Systemic Therapy on Mortality, Pub. Health Rep. **58:** 513-522 (March 26) 1943.

12. Fox, C. L., Jr.: Oral Sodium Lactate in the Treatment of Burn Shock, J. A. M. A. **124:** 207-212 (Jan. 22) 1944.

13. Parkins, W. M.; Koop, C. E.; Riegel, C.; Vars, H. M., and Lockwood, J. S.: Gelatin as a Plasma Substitute, with Particular Reference to Experimental Hemorrhage and Burn Shock, Ann. Surg. **118:** 193-214 (Aug.) 1943.

14. Rhoads, J. E.; Wolff, W. A., and Lee, W. E.: The Use of Adrenal Cortical Extract in the Treatment of Traumatic Shock of Burns, Ann. Surg. **113:** 955-968 (June) 1941.

15. Rhoads, J. E.; Wolff, W. A.; Saltonstall, H., and Lee, W. E.: Further Experiences with Adrenal Cortical Extract in the Treatment of Burn Shock, Ann. Surg. **118:** 982-987 (Dec.) 1943.

16. Beecher, H. K.: Resuscitation and Sedation of Patients with Burns Which Include the Airway: Some Problems of Immediate Therapy, Ann. Surg. **117:** 825-833 (June) 1943.

17. Treatment of Burns and Prevention of Wound Infections, United States Office of Civilian Defense, Emergency Management Office, April 1943.

18. Beecher, H. K.: Delayed Morphine Poisoning in Battle Casualties, J. A. M. A. **124:** 1193-1194 (April 22) 1944.

operations. Men who were given large doses of morphine when in severe shock showed signs of morphine poisoning (pinpoint pupils and deep respiratory depression) after receiving shock therapy. Beecher stated that "it was not likely that morphine administered subcutaneously under these circumstances would be absorbed. Apparently it was not, for in many cases no pain relief occurred following its use, and the first dose of ½ grain (30 mg.) of morphine would be followed by a second or even a third injection over a period of hours, all of these causing little if any effect. . . . In men in shock, restoration of blood volume and blood pressure, followed eventually by warming, with renewal of the peripheral circulation, led to the seriously rapid absorption of all the morphine injected, and poisoning developed."

Other elements to consider in the early general care of the burned patient are the control of burn toxemia and of burn sepsis. Toxemia still remains somewhat of a mystery. While tannic acid may cause some toxemia, its abandonment has not entirely eliminated burn toxemia. The adequate administration of dextrose and protein and the control of anuria—still an important problem—remain the chief modes of managing toxemia. The management of sepsis is mainly a question of prophylaxis in the original care of the burn wound, but oral administration of sulfonamides and more recently of penicillin, parenteral or local, have much to offer. Tennison [19] has suggested the local use of succinylsulfathiazole, the advantage being its relative nonabsorbability.

Late General Care.—Infection still remains a problem at this stage, but essentially its control depends on maintenance of the patient's nutrition. Anemia, avitaminosis and hypoproteinemia are troublesome and demand continued correction. Taylor, Levenson, Davidson, Browder and Lund [20] have drawn especial attention to this most important aspect of the subject. The use of amino acid solutions is of value in the control of hypoproteinemia.

LOCAL CARE

Early Local Care.—At the present time tannic acid is declining rapidly in popularity as the pressure dressing method of therapy is becoming more widely used. Reasons for the abandonment of tannic acid include the facts that (1) the brittle eschar frequently becomes infected in third degree burns, (2) the difficulty in removing the eschar delays skin grafting, (3) destruction of remaining skin islands delays healing and increases scarring (Cannon and Cope,[21] Hirshfeld, Pilling and Maun [22]) and (4) the absorption of tannic acid leads to focal necrosis of the centers of the liver lobules. This last complication deserves separate mention, as follows:

Liver Necrosis.—The possibility that tannic acid might cause focal central necrosis of the liver was first postulated by Wilson [23] in Great Britain in 1938. This action was shown to be true experimentally by Wells, Humphrey and Coll [24] and later by Forbes and Evans,[25] by Baker and Handler [26] and by Hartman and Romence.[27] Erb, Morgan and Farmer [28] studied the postmortem findings in 61 cases of burns. Of these, 41 were tanned, with 25 (61 per cent) instances of liver necrosis, and 20 were not tanned, with 0 (0 per cent) instances of liver necrosis. Rosenthal,[29] working with mice, found that "significant increases in early mortality were produced by . . . tannic acid solutions and ointment . . . when applied to a scalded area." These observations seem to point rather conclusively to the potential danger of liver necrosis from tannic acid therapy. A closer study of the reported cases and experiments indicates that the tanning methods in which the active agent is kept in contact with the burned surface in a moist state for a long period of time (tannic acid jelly or baths) are especially dangerous. The increased chances for absorption seem to be the influencing factor. Rapid tanning, as by tannic acid-silver nitrate, where the agents dry within a matter of minutes or seconds, is less dangerous in this regard.

Abandonment of tannic acid has not entirely eliminated burn toxemia, and the question still remains whether selected burn cases may not under certain conditions be treated with advantage by this type of therapy. A more complete discussion of this important subject is made by Lee and Rhoads in their article in this symposium.

First Aid Care.—This subject is best summarized by quoting Koch: [30]

> How can we prevent infection? By covering the burned area immediately with clean towels and not exposing it even momentarily until personnel with masked faces and cleansed hands are ready to carry on. The practicability and helpful results of such protection were demonstrated by Churchill and his associates at the Massachusetts General Hospital after the Cocoanut Grove fire. Burned surfaces were covered with sterile towels in the emergency room and kept covered until the patients could be cared for by masked, gowned and gloved personnel.

Early Local Definitive Care.—The use of pressure dressings for wounds and skin grafts is not new, but the application of this method to burns was first made by Koch [3] in 1941. A full description of this important type of management is given in Dr. Koch's chapter in this symposium. In the treatment of the victims of the Cocoanut Grove disaster Cope [31] did not debride or cleanse his burns, whereas Koch's original method advised such cleansing. A discussion of this cogent aspect of the subject is given in Dr. Koch's chapter.

19. Tennison, C. W.: Use of Nonabsorbable Sulfasuxidine in Extensive Burns, Surgery **15:** 332 (Feb.) 1944.
20. Taylor, F. H. L.; Levenson, S. M.; Davidson, C. S.; Browder, N. C., and Lund, C. C.: Problems of Protein Nutrition in Burned Patients, Ann. Surg. **118:** 215-224 (Aug.) 1943.
21. Cannon, B., and Cope, O.: Rate of Epithelial Regeneration, Ann. Surg. **117:** 85-92 (Jan.) 1943.
22. Hirshfeld, J. W.; Pilling, M. A., and Maun, M. E.: A Comparison of the Effects of Tanning Agents and of Vaseline Gauze on Fresh Wounds of Man, Surg., Gynec. & Obst. **76:** 556-561 (May) 1943.
23. Wilson, W. C.: Personal communication to the author, October 1938.
24. Wells, D. B.; Humphrey, H. D., and Coll, J. J.: The Relation of Tannic Acid to the Liver Necrosis Occurring in Burns, New England J. Med. **226:** 629-635 (April 16) 1942.
25. Forbes, J. C., and Evans, E. I.: Tannic Acid and Liver Necrosis, Surg., Gynec. & Obst. **76:** 612-613 (May) 1943.
26. Baker, R. D., and Handler, P.: Animal Experiments with Tannic Acid Suggested by the Tannic Acid Treatment of Burns, Ann. Surg. **118:** 417-426 (Sept.) 1943.
27. Hartman, F. W., and Romence, H. L.: Liver Necrosis in Burns, Ann. Surg. **118:** 402-416 (Sept.) 1943.
28. Erb, I. H.; Morgan, E. M., and Farmer, A. W.: The Pathology of Burns: The Pathological Picture as Revealed at Autopsy in a Series of Sixty-one Fatal Cases Treated at the Hospital for Sick Children, Toronto, Canada, Ann. Surg. **117:** 234-255 (Feb.) 1943.
29. Rosenthal, S. M.: Experimental Chemotherapy of Burns and Shock: I. Methods; II. Effects of Local Therapy upon Mortality from Shock, Pub. Health Rep. **57:** 1923-1935 (Dec. 18) 1942.
30. Koch, S. L., in discussion on paper by Whipple, A. O.: Basic Principles in the Treatment of Thermal Burns, Ann. Surg. **118:** 187-192 (Aug.) 1943.
31. Cope, O.: The Treatment of Surface Burns, Ann. Surg. **117:** 885-893 (June) 1943.

Another treatment that seems to offer some promise is the encasing treatment of burns of the extremities in close fitting plaster of paris casts as advocated by Levenson and Lund.[32] As with the pressure dressing method, the first change of the bandage or cast is not made for ten to fourteen days. The use of plaster casts is based on the experimental work of Glenn, Gilbert and Drinker.[33]

It cannot be emphasized too strongly that local and general care must work conjointly to a common end. Whereas general care is essentially directed toward saving the patient's life and local care toward hastening healing and the prevention of scars and contractures, each should consider the other. In fact, the best local remedies (pressure dressings and the like) go far toward minimizing plasma loss and saving the patient's life, while adequate transfusions of plasma and blood hasten the healing of the local wound.

Late Local Care.—This includes the skin grafting of granulating surfaces and the correction of scars, deformities and contractures. It should be noted that the former (skin grafting of open wounds) must be done as promptly as possible, preferably within the first six weeks after the burn, and usually by the same surgeon and in the same hospital in which the original burn care was given. On the other hand, the latter (correction of scars, deformities and contractures) is best postponed for three to six months and can safely be done by other surgeons, preferably those especially trained in plastic work and possibly thousands of miles from the original scene of the accident.

The recent development of coagulum contact skin grafts by Sano [34] would seem to have little application to the covering of the extensive granulating surfaces that follow severe burns.

CONCLUSIONS

1. In the early control of burn shock, adequate doses of plasma are of especial importance.

2. In the late control of burn anemia and malnutrition, blood transfusions, protein and amino acids are of value.

3. The local first aid treatment of burns should include the application of clean towels until such time as definitive management by aseptic means is available.

4. The application of a sterile compression bandage which is not changed until the tenth to the fourteenth day after the burn is at the present writing the best definitive local management of thermal burns.

5. In all third degree burns the resulting granulating surfaces should be skin grafted as soon as possible. No burn is cured until any existing granulating surfaces are healed.

6. The late plastic correction of scars, deformities and contractures is of importance but in most cases can safely be delayed for three to six months.

32. Levenson, S. M., and Lund, C. C.: The Treatment of Burns of the Extremities with Close Fitting Plaster of Paris Casts, J. A. M. A. **123:** 272-277 (Oct. 2) 1943.

33. Glenn, W. W. L.; Gilbert, H. H., and Drinker, C. K.: The Treatment of Burns by the Closed Plaster Method, with Certain Physiological Considerations Implicit in the Success of This Technique, J. Clin. Investigation **22:** 609-625 (July) 1943.

34. Sano, M. E.: A Coagulum Contact Method of Skin Grafting as Applied to Human Grafts, Surg., Gynec. & Obst. **77:** 510-513 (Nov.) 1943.

THE CHEMICAL ASPECTS OF BURN TREATMENT

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The rationale of the chemical treatment of burns is based on what is known of their pathologic physiology. In the modern therapy of the burned patient the chemical treatment is important, and a thorough understanding of the pathologic physiology is a requisite to the physician who treats the burned patient with intelligence. In this article are presented current concepts of the nature and consequences of a burn wound and the treatment recommended.

NATURE OF A BURN WOUND

The application of sufficient heat to a body surface to produce a burn sets in motion a sequence of events. The changes which appear in a patient with a burn, mild or severe, within the first hours are manifested as pain, alterations in blood flow, increase in capillary permeability, edema and increased flow in the lymphatic trunks.

Necrosis.—In a severe burn the picture is complicated by cell necrosis and its consequences. The superficial layers of the surface are, of course, the first affected. If the necrosis penetrates the epidermis, this layer may be lifted up by the pressure of the excessive fluid beneath and form the roofs of blebs. As temperature or duration of exposure is increased, the cells of the epidermis coagulate and no bleb can form. In the most intense burn, the cell necrosis and coagulation have penetrated the skin into the underlying tissues; the whole skin is turned into an eschar. No matter how deep the cell necrosis, beneath it there is always an edematous zone of first degree or incomplete burn where the cells are viable.

Pain.—The pain of a burn arises from the sensory nerve endings of the skin and the nerves of the vascular bed and of the deeper tissues. The immediate and severe pain is due to the effect of the heat on the skin, and if the nerves have not been destroyed the pain persists. Intense pain also arises in the damaged vascular bed if the intracapillary pressure is raised. Pain due to distention of the tissues is late and moderate.

Increased Blood Flow.—The alterations in blood flow are due principally to local damage of the vessels. Vascular reflexes, initiated by pain, also play a part. Immediately following the application of heat there is a transitory blanching of the affected surface followed by a flush which slowly extends out beyond the area of damage as a flare. The blanching and flush are due to direct trauma, but the flare is of neurogenic origin.

The flush or capillary dilatation is accompanied by an increased blood flow, the impulse in the artery leading to the burned area being exaggerated. In experimental burns of the feet of dogs, the arterial flow may be doubled and the arteriovenous oxygen difference just proximal to the burned area is decreased to almost zero.[1]

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Part of the work described in this paper was done under a contract, recommended by the Committee on Medical Research, between the Office of Scientific Research and Development and Harvard University.

1. Unpublished data from this laboratory.

Although vascular dilatation is the rule, the pain sometimes causes peripheral vasoconstriction with apparent decrease in blood flow to the burned area:

A patient was seen at this hospital thirty minutes after enduring a steam burn of the low thigh and knee. Blebs had already formed and ruptured. Instead of a flushed, weeping surface, the whole leg was blanched and the exposed surface dry. The foot and leg below the burn were cold and clammy. The patient was suffering intense pain. After the administration of 16 mg. of morphine sulfate the pain gradually subsided. As the patient felt more comfortable, a flush slowly spread over the burned surface and weeping started.[2]

Increased Capillary Permeability.—Capillary permeability in the burned area is increased, even with the mildest trauma, and a protein-rich plasma filtrate pours out into the extracellular spaces. The edema produced involves not only the skin itself but also the subcutaneous tissue spaces, and the volume of the vascular fluid lost into the tissues is greater than would be expected from the visible swelling of the skin. The combined vascular response and edema has been called the triple response by Thomas Lewis.[3]

The heat also increases lymphatic permeability,[4] and, accompanying the formation of edema and rise in interstitial fluid pressure, there is an increased return flow of the capillary filtrate into the blood stream through the lymphatic vessels.[5]

The volume of edema fluid is proportionate to the surface area rather than to the depth of the burn. The other characteristics of edema fluid are a high concentration of plasma protein and a lack of a substance to coagulate this protein.

The clue to the chemical nature of edema fluid is found in the analysis of bleb fluid. In the human being it has an average protein content of 4.0 Gm. per hundred cubic centimeters, the concentration fluctuating slightly with the severity of the burn and decreasing with the healing of the wound.[1] (The figures reported from other laboratories vary slightly.[6]) The proportionate concentration of albumin to globulin is greater than in blood plasma. The concentration of fibrinogen and prothrombin approximates that in blood serum. The diffusible portions of the electrolytes, carbohydrate and nonprotein nitrogenous substances have the same concentration as that in the blood.

The relatively greater proportion of albumin in edema fluid means that the albumin molecule escapes from the damaged capillaries more readily than the globulins. Since the albumin is the molecule in the plasma principally responsible for the osmotic pressure of the blood, its greater loss means a proportionately high loss of osmotic power of the blood.

In spite of the fact that all of the elements of plasma necessary for coagulation have seeped into the edema fluid, coagulation of this fluid rarely takes place in an uninfected burn wound. (The heat coagulates the cellular protein in situ, but the subsequent edema does not coagulate.) A spider web clot may form in a bleb, usually not before forty-eight hours. The fluid aspirated from such a bleb clots in a test tube, proving incomplete coagulation previously. This is also proved by the observations that a clean burn with ruptured blisters continues to weep for several days and that the fluid of an unruptured bleb is slowly resorbed as late as the third to eighth day.

The failure of burn edema fluid to coagulate is in contrast to the rapid coagulation of the protein in interstitial fluid following mechanical trauma sufficient to cause cell injury. Mechanical trauma to cells releases thrombokinase, which activates the enzyme thrombin, which in turn precipitates fibrin from the fibrinogen present in the interstitial fluid.

The failure of a burn wound to clot is presumably due to the absence of thrombokinase. Contact with substances which clot blood also causes bleb fluid to clot. The edema fluid of experimental burns has been shown to coagulate immediately on the injection of a tissue extract known to have a high content of thrombokinase.[7] It is presumed that if thrombokinase itself is present in the normal cell it is thermolabile or, if cells contain only its precursor, the precursor is not activated by heat.

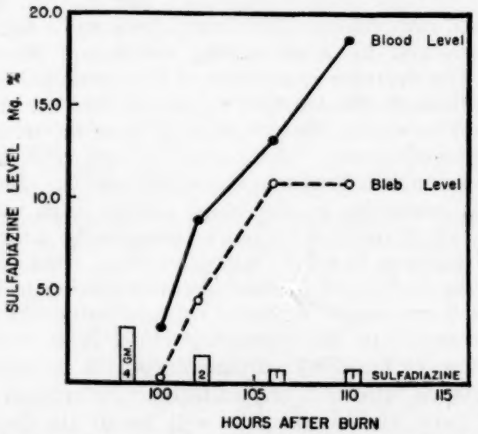

Fig. 1.—Concentration of sulfadiazine in blood and bleb fluid after withholding the drug until the fourth day. The patient had a second degree burn with multiple blebs. Four Gm. of sulfadiazine was given by mouth ninety-eight hours after the burn. The rise in concentration in the bleb fluid is almost as prompt as in the blood stream even at this late time after the burn. Chemotherapy, internally administered, even though delayed, should be effective.

Clinicians have observed the retarded coagulation of the burn wound but have failed to grasp the implications. Water soluble substances placed on the surface of a burn wound with ruptured blebs will be dissolved and absorbed into the general circulation. That sulfonamides applied to the surface are absorbable and may reach toxic levels in the blood is to be anticipated.[8]

The converse is true; substances which permeate the capillary wall, if injected into the general circulation, will be found in the fluid of the burn wound in the same concentration as in the blood plasma. It has been shown that sulfonamides administered intravenously or by mouth are found in the bleb fluid in the same concentration as in the blood plasma.[9]

In figure 1 the rise in sulfonamide concentration in blood plasma and bleb fluid is illustrated in a patient with a second degree burn. There were multiple unruptured blebs. Sulfon-

2. Reflex vasoconstriction on stimulation of the central end of a peripheral nerve, such as the sciatic, is known to experimental physiologists. Such a reflex following a burn decreases the loss of plasma from the capillaries into the burned tissues, thus serving a purpose. Were the effect of pain on the organism limited to this reflex, relief of pain would be contraindicated.

3. Lewis, T.: The Blood Vessels of the Human Skin and Their Responses, London, Shaw & Sons, Ltd., 1927.

4. McMasters, P. D.: Lymphatic Participation in Cutaneous Phenomena, in Harvey Lectures, 1941-1942, Baltimore, Williams & Wilkins Company, 1942, vol. 37, pp. 227-268.

5. Field, M. E.; Drinker, C. K., and White, J. C.: Lymph Pressures in Sterile Inflammation, J. Exper. Med. **56**: 363-370 (Sept.) 1932. McMasters.[4]

6. Harkins, H. N.: The Treatment of Burns, Springfield, Ill., Charles C Thomas, Publisher, 1942.

7. Glenn, W. W. L.; Peterson, D. K., and Drinker, C. K.: The Flow of Lymph from Burned Tissue, with Particular Reference to the Effects of Fibrin Formation on Lymph Drainage and Composition, Surgery **12**: 685-693 (Nov.) 1942.

8. Hooker, D. H., and Lam, C. R.: Absorption of Sulfanilamide from Burned Surfaces, Surgery **9**: 534-537 (April) 1941.

9. Cope, O.: The Treatment of the Surface Burns, Ann. Surg. **117**: 885-893 (June) 1943.

amides were withheld until ninety-eight hours after the burn, when 4 Gm. of sulfadiazine was given by mouth. The concentration of sulfadiazine measured at two hourly intervals in both blood plasma and bleb fluid showed only a slightly delayed rise in the bleb fluid as compared with blood even at this late time after the burn.

The nature of a burn wound may be altered by infection, a consequence of cell necrosis. When the corneum is ruptured, organisms penetrate freely into the recesses of the wound and infection results. As long as the corneum is intact, even though killed by heat and lifted off the dermis, it offers a formidable barrier to bacteria. This is proved by the observation that the fluid of unruptured blebs is free of virulent organisms.[9]

GENERAL CONSEQUENCES OF LOCAL CHANGES

As a result of the local changes in the wound, the life of the burned patient is endangered. The principal hazards are shock and infection. To these may be added the problem of disposing of the abnormal breakdown products of protein and the surfeit of water, salts and protein resulting from therapy.

Shock.—Shock develops rapidly in an extensively burned patient. Although pain may cause generalized vasomotor collapse, this is transitory and of relatively little clinical importance. The burn shock to be feared is that produced by a decreasing circulating plasma volume. The decrease is a result of the continued loss of plasma through the damaged capillaries into the burn wound.[10] The venous blood returning from the wound has a disproportionately high content of red cells, and eventual generalized hemoconcentration follows. Since the plasma remaining in the blood stream loses more albumin than globulin it becomes increasingly difficult for the circulating blood to withdraw fluid from elsewhere in the body, and increasing concentration of the plasma itself ensues. Not only is the effective plasma volume reduced but the remaining blood is so viscid that its flow is impeded, cardiac output is curtailed, blood pressure falls and an inadequate circulation to normal organs and tissues, as well as to the burn, results.

The most serious consequence of the circulatory failure is the disturbance of organ function. An inadequate supply of oxygen forces some tissues to subsist under anaerobic conditions. Since brain is unable to survive in the absence of oxygen, the body makes an effort to redistribute blood to the higher nervous centers in order to maintain life. This means that other organs, such as the intestinal tract, kidney, liver, and muscle, may be forced to live under almost completely anaerobic conditions.

Muscle is able to survive anaerobically, but the products of its metabolism differ from those in the presence of oxygen. Dextrose instead of being broken down completely to carbon dioxide and water is metabolized only as far as lactic and pyruvic acids.[11] Since the failing circulation is unable to remove the waste products of metabolism, these fixed acids accumulate in the muscle, and an alteration in electrolyte balance or acidosis results.

The liver suffers under conditions of a failing circulation, for it is dependent for part of its oxygen on blood which has already supplied another organ. The liver derives its oxygen from the portal vein blood as well as from that of the hepatic artery. With a drop in cardiac output, the blood flow to the intestinal tract is one of the first reduced by the body's compensating mechanism. The intestinal tract removes all of the oxygen it can from the blood passing through it, with the result that by the time the blood reaches the liver it contains but little oxygen. In the absence of oxygen the liver cannot perform certain of its functions, deamination and glycogen production.[12] Amino acids, a normal breakdown product of protein metabolism, accumulate in the blood. The glycogen store is rapidly depleted and resynthesis prevented.

The kidney is unable to perform its function of urine formation without an adequate blood flow. Waste products accumulate, and its compensating electrolyte selectivity is lost. Normally, if fixed acids appear in excess in the blood, the kidney excretes them by excluding the volatile carbonic acid and using ammonia.

Burn shock is accompanied by dehydration and electrolyte imbalance. Dehydration of the unburned tissues of the body continues slowly so long as hemoconcentration is present. The blood withdraws fluid and electrolytes from the interstitial spaces but, as this source is drained, intracellular fluid in turn is tapped. With the passage of water from cells to extracellular spaces, electrolytes also must pass in order to maintain isotonicity on both sides of the cell membrane. Sodium and chloride are the predominant ions of the extracellular fluid, while potassium and phosphate are their counterparts within the cells. With dehydration, therefore, the levels of phosphate and potassium rise in interstitial fluid and blood. As dehydration continues, cell metabolism is disturbed and, with the progression of burn shock, cells die. It is not proved whether it is the accumulation of phosphate and potassium in abnormal concentrations in the interstitial fluid that poisons the cells or whether it is the lack of adequate fluid and electrolyte within.

The pattern of the electrolyte imbalance encountered in untreated shock, as the consequence of prolonged inadequate circulation, is determined by the relative contribution of each of its three causes. The three causes are dehydration, anaerobic metabolism and absent kidney function. The pattern may be further altered by therapy and infection.

Infection.—The growth of infective organisms in a burn wound not only increases destruction of viable tissue and delays cellular regeneration but also fosters a generalized toxemia and malnutrition.

The degrees of infection and shock in the burned patient are closely interwoven. Infectious toxemia abets the shock due to loss of an effective blood volume, and it is probable that the worse the shock the more rapid the growth of organisms. Many of the virulent organisms, such as certain strains of streptococci, proliferate more rapidly under partially anaerobic conditions. Since in shock there is a shortage of oxygen in the burn wound, such organisms flourish and bacterial toxemia threatens in a few hours.

Infection adds to the nutritional load of the burned patient. There is some loss of nitrogen even with a moderate burn. In patients with deep, widespread, infected burns there is wasting accompanied by large

10. Blalock, A.: Experimental Shock: VII. The Importance of the Local Loss of Fluid in the Production of the Low Blood Pressure After Burns, Arch. Surg. **22**: 610-616 (April) 1931. Harkins, H. N.: Experimental Burns: I. The Rate of Fluid Shift and Its Relation to the Onset of Shock in Severe Burns, ibid. **31**: 71-85 (July) 1935.

11. Lipmann, F.: Pasteur Effect, in A Symposium on Respiratory Enzymes, Madison, University of Wisconsin Press, 1942.

12. Engel, F. L.; Harrison, H. C., and Long, C. N. H.: Biochemical Studies on Shock: III. The Role of the Liver and the Hepatic Circulation in the Metabolic Changes During Hemorrhagic Shock in the Rat and the Cat, J. Exper. Med. **79**: 9-22 (Jan.) 1944.

losses of nitrogen. Protein is discharged from the wound and excreted as breakdown products through the kidney. If the infection is not controlled, cachexia develops. Anemia may also result from infection, and rapidly if the toxemia is severe.

Late Resorption of Edema Fluid.—The burn wound increases the capacity of the extracellular fluid reservoir, and this reservoir must be kept filled by the addition of plasma protein, electrolyte and water in order to maintain bodily function. At the height of wound edema, therefore, there will be within the extracellular spaces a superabundance of vascular protein and fluid. When the lymphatic resorption of fluid from the wound exceeds the leakage into the wound and edema resorption has begun, the body is faced with the problem of eliminating the extra amount of plasma protein and fluid in order to prevent an excess plasma volume. In a burn of small area the excess protein and fluid offers no problem, since the protein can be either stored or metabolized and the fluid excreted by the kidney. In an extensive burn an amount of plasma and fluid will have been given which may prove unmanageable during the period of resorption.

The edema of the burn wound usually reaches its maximum within the first thirty-six to forty-eight hours and then begins to subside. By the end of five to seven days, if there is no active infection, the edema has almost entirely disappeared. It is after the third day, therefore, that the patient may develop an increased plasma volume and pulmonary edema. With an excessive plasma volume the hematocrit falls. With the destruction of red cells by infectious toxemia there is also a fall in hematocrit. From the point of view of therapy the two must be differentiated.

Elimination of Abnormal Protein.—Heat denatures protein, and the elimination of such protein may prove a burden to the kidney. Abnormal protein is created in the cells necrotized by the heat and in the surrounding blood and fluid. Some of the tissue proteins are eliminated as slough from the burn wound. The blood proteins are resorbed into the circulation and have to be either metabolized or excreted.

Hemolysis is an accompaniment of severe burns and is believed to be the result of the exposure of the red cells to heat. In experimental animals, hemolysis is encountered following a boiling water burn of the leg only if the exposure exceeds twenty seconds.[1] Shen and Ham [13] have noted increased fragility of red cells following burns.

The kidney may find it difficult to eliminate hemoglobin. Massive hemoglobinuria was encountered in a number of the patients of the Cocoanut Grove fire. In some no residual disturbance of kidney function resulted.[14] In others the hemoglobinuria was associated with decreased elimination of other substances.[13] The maintenance of adequate blood flow to the kidney by the prevention of shock is probably the deciding factor in overcoming the load of hemoglobinuria. In the cases without residual kidney damage the sodium bicarbonate therapy accompanying the sulfonamide therapy may have played a preventive role.

Albuminuria is unpredictable; it does not necessarily occur in even extensively burned patients.[14] The precipitable protein is eliminated by the kidney, presumably because it is an abnormal protein. It may be abnormal as a result of infection as much as of the burn.

13. Shen, S. C., and Ham, T. H.: Studies on the Destruction of Red Blood Cells: III. Mechanism and Complications of Hemoglobinuria in Patients with Thermal Burns; Spherocytosis and Increased Osmotic Fragility of Red Blood Cells, New England J. Med. **229:** 701-713 (Nov. 4) 1943.

14. Cope, O., and Rhinelander, F. W.: The Problem of Burn Shock Complicated by Pulmonary Damage, Ann. Surg. **117:** 915-928 (June) 1943.

CHEMICAL TREATMENT

The chemical treatment of the burned patient is directed toward the control of shock and infection and the production of the optimal condition of nutrition for wound healing.

Shock.—The ideal chemical treatment of burn shock would be the prevention of shock by an agent which would remedy the abnormal capillary permeability. Such treatment would prevent the excessive loss of plasma from the circulation. No chemical agent is known which will do this. It has been thought that adrenal cortex extract and desoxycorticosterone acetate were such agents, but on analysis these have been found to be ineffectual.[15] Posterior pituitary has been suggested, since it causes arterial constriction and reduction in blood flow. Theoretically, therefore, it should diminish the plasma loss but it has side-effects, the most undesirable of which is constriction of the coronary arteries, and cannot be recommended.

It is possible, although not by a chemical agent, to reduce the plasma loss by the application of cold or pressure. Cold produces its effect by causing reflex arteriolar constriction and reduction in blood flow. It has limited therapeutic use, since, if it is applied for any length of time or at too low a temperature, frostbite will result. If too extensive an area of the body is chilled the body temperature will fall. Yet the application of cold nonetheless for a burn of a single extremity should be resorted to when other measures for the relief of shock (and pain) are not available.

A plaster bandage or elastic pressure dressing applied to the head or to an extremity diminishes the plasma filtration from the capillaries by raising the interstitial fluid pressure. If the burn is deep, however, the escaped plasma may be forced through the tissues and appear as edema proximal to the dressing. The dressings must be applied with graded pressure, the greatest pressure being at the most distal portion. A constricting band proximally will result in occlusion of blood flow as edema develops, and gangrene will result.

Replacement of Lost Plasma Volume.—It is beyond our control to affect the concentration of water, electrolyte and plasma protein within the wound, and the chemical treatment of shock resolves itself into maintaining normal concentrations within the blood stream and unburned interstitial spaces and the administration of the fluid and foods which the body requires for kidney function and normal metabolism. Since the leakage of plasma starts immediately after the burn and since efforts should be directed toward the prevention of shock, the replenishment of plasma volume is to be started as soon as possible and to be continued during the period of increasing edema.

Theoretically the best solution to inject into the blood stream to replace the plasma is a solution chemically identical to that being lost. Such a solution can be made by diluting human plasma with an equal volume of isotonic solution of sodium chloride and adding sufficient albumin concentrate to raise the protein content to 4.0 Gm. per hundred cubic centimeters.

There are reasons which make it advisable to inject into the blood stream the most concentrated solution of plasma protein possible. A solution of high colloid osmotic pressure should retard the leakage through the

15. Cope, O., and Moore, F. D.: A Study of Capillary Permeability in Experimental Burns and Burn Shock Using Radioactive Dyes in Blood and Lymph, J. Clin. Investigation **23:** 241-257 (March) 1944. Rhoads, J. E.; Wolff, W. A.; Saltonstall, H., and Lee, W. E.: Further Experiences with Adrenal Cortical Extract in the Treatment of Burn Shock, Ann. Surg. **118:** 982-987 (Dec.) 1943. Cope and Rhinelander.[14]

capillaries. This is particularly important if there is pulmonary damage.[14] When a high concentration of protein is used, a smaller volume has to be injected intravenously. The remainder of the required fluid can be given by mouth, and this will prove more satisfactory to the patient. Whole plasma, therefore, should be injected rather than dilute plasma. There is one objection to giving full strength plasma; it flows slowly through a needle and if the patient is in shock it is imperative that the plasma protein replacement be expedited and pumping with a syringe may be required.

In the estimation of the volume of plasma to be replaced, calculate in terms of undiluted plasma. Since the plasma required is proportionate to the area of the burn, the surface area formula developed by Berkow and applied to burn plasma dosage by Harkins[16] is logical. For each 10 per cent of the body surface burned, 500 cc., or 2 units, of plasma should be given over the first twenty-four hours. In the second twenty-four hours approximately half of this amount will be required. When the patient is seen within the first half hour after the burn there will be little hemoconcentration to combat, and two thirds of the plasma should be injected in the first twelve hours and the remainder in the second twelve hours.

When the patient is not seen until shock is imminent and hemoconcentration is advanced, the plasma must be injected rapidly until hemoconcentration is virtually relieved. The remaining volume of the twenty-four hour requirement may have to be supplemented. If a hematocrit reading can be immediately obtained it is more efficient in this patient to calculate the initial requirement by using the formula of Harkins.[17] For each per cent that the hematocrit is above the normal of 45, 50 cc. of plasma should be administered. Subsequent plasma should be injected on the basis of the surface area formula in order to anticipate the continued loss.

Plasma is more economically used, according to Rhoads,[16] if some degree of hemoconcentration is allowed. In the patient with a burn of small area an excess of plasma will do no harm unless there is a concomitant pulmonary injury.[14] In the extensively burned patient, sparing use is advisable in order to avoid overburdening the body with plasma protein during the period of edema resorption.

Repeated hematocrit readings should be made in order to judge the success of the plasma therapy. Although the size of the surface area burned is the safest guide, the portion of the body affected and the depth of the burn must be taken into consideration.[14]

All figures quoted are for an adult of average size and should be adjusted for children or for small or large adults.

Blood bank and reconstituted plasma are equally good in the treatment of shock from the point of view of protein replacement. Reconstituted plasma unfortunately contains merthiolate as a preservative and, if more than 8 units is needed, blood bank plasma should be used in order to avoid mercurial damage to the kidneys.

Besides giving the calculated amount of undiluted plasma, saline solution to complete the replenishment of the plasma volume, water for kidney function and food for metabolism must be given. The foods required are described in the last section of this paper. The volume of saline solution required is equal to that of the plasma injected intravenously. The saline solution must be given subcutaneously if it cannot be taken by mouth, otherwise dehydration and salt depletion will take place. If the patient is given nothing but isotonic electrolyte solution, the kidney is forced to concentrate the urine beyond normal. Water is needed, and 1,500 cc. should be given in the first twenty-four hours and 1,000 cc. in the second twenty-four hours. If the patient is thirsty on this quantity of water, it is judged that an insufficient volume of saline solution has been given. During the period of resorption of edema fluid, water should be given moderately and cautiously.[18]

All of the requirements, other than plasma protein, should be given by mouth when the patient is not nauseated or burned in the pharynx. The entire intestinal tract can act as a reservoir storing water, electrolyte and foods until the extracellular fluid or kidney needs them. When dehydration exists, water and the appropriate electrolytes are absorbed; the reservoir is able to hold nonprotein nitrogen, phosphate and potassium which have piled up in excessive concentrations in interstitial fluid and plasma. If the patient is normally hydrated a moderate excess of intake does no harm, since the reservoir increases its capacity. This capacity is not unlimited, however, and a large excess of fluid is to be avoided, particularly during the period of edema resorption.

If plasma either in the frozen blood bank or in the dehydrated form is not available for the treatment of burn shock, there are substitutes in other forms of blood, colloid or electrolyte solutions. The two substitutes for plasma derived from blood are whole blood itself and albumin concentrate, and these rank as second choice. They have different advantages; they are best used in combination and with saline solution. Whole blood supplies complete plasma. It has the disadvantage of adding cells and is therefore less effective in reducing hemoconcentration. When a large volume of plasma has to be replaced, a corresponding excess of red cells will be added to the circulation. This will mean an increase in blood volume. It is not known how many of these extra red cells the spleen is able to remove. The number of whole blood transfusions, therefore, that can be given in the early hours after a burn and during the period of maximum plasma loss should probably be limited to 5 pints for the adult of average size.

The administration of albumin concentrate,[19] like that of plasma, is not accompanied by the formation of an excessive cell volume. Replenishment of the plasma ensues, but there is a distortion of the protein balance of the plasma since the single protein, albumin, is replacing both albumin and globulin.

The combination of whole blood and albumin concentrate in equal volumes of plasma equivalent is better than either alone. Fifty cc. of the 25 per cent solution of albumin diluted to 250 cc. with isotonic solution of sodium chloride is the osmotic or plasma equivalent of 500 cc. of whole blood. With the blood and albumin solution, an equal volume of saline solution should be given by mouth.

16. National Research Council Conference on Burns, Jan. 7, 1942.
17. Harkins, H. N.; Lam, C. R., and Romence, H.: Plasma Therapy in Severe Burns, Surg., Gynec. & Obst. **75**: 410-420 (Oct.) 1942.

18. D. W. Richards Jr. (personal communication) has obtained evidence of increased plasma volume and venous pressure in addition to signs of pulmonary congestion between the third and fifth days after the burn in patients who have received large quantities of parenteral fluid therapy beyond the third day. Two patients died; in the treatment of 2 other patients parenteral fluids were discontinued, diuresis occurred and the patients recovered.

19. Heyl, J. T.; Gibson, J. G., 2d, and Janeway, C. A.: Studies on the Plasma Proteins: V. The Effect of Concentrated Solutions of Human and Bovine Serum Albumin on Blood Volume After Acute Blood Loss in Man, J. Clin. Investigation **22**: 763-773 (Nov.) 1943. The human and bovine plasma albumin concentrates are not yet commercially available.

The noncolloid solutions, water, salt and dextrose, in large volumes have made possible the survival of many severely burned patients.[20] When no colloid solution is available, any one or a combination of noncolloid solutions should be given freely. A noncolloid solution is able to relieve dehydration by rebuilding the plasma volume and filling the extended interstitial space (fig. 2). With the improvement in the circulation the rate of edema formation, however, is accelerated because the proteins of the plasma are diluted. The acceleration is not as deleterious as would be expected, since it is compensated for by a decrease in the protein concentration of the edema fluid.[21]

Each noncolloid solution has its own peculiar effect beyond its dilution of plasma protein. Water fills the enlarged extracellular fluid reservoir but dilutes the electrolytes (fig. 2, diagram *C*). (Water as a substitute for plasma in the treatment of burn shock must be differentiated from that given in addition to plasma-saline therapy to maintain kidney function.) The dilution of calcium, magnesium, phosphate and potassium is readily compensated for because there is a store of these electrolytes within the cells. There is no storehouse for sodium and chloride, and in an extensively burned patient given water the levels will be dangerously low.

It is erroneous in the therapy of burn shock to urge the patient being treated to drink water freely with the idea that it will take the place of plasma and saline solution. Even if the patient is given plasma intravenously, a large intake of water without salt may result in electrolyte dilution. The following case illustrates such dilution:

A woman aged 29 entered the hospital with second and third degree flame burns of the entire face, head, neck, arms, shoulders and back and the sternal portion of the chest (34 per cent in total). She was given 750 cc. of blood bank plasma plus 750 cc. of isotonic solution of sodium chloride intravenously in the first twelve hours, in spite of which her hematocrit reading rose to 71 per cent. She was given a similar quantity of plasma and saline solution intravenously in the second twelve hours. Throughout this period she imbibed 4,500 cc. of water without salt. At the end of twenty-four hours her hematocrit reading had dropped only to 59 per cent but her plasma already showed dilution. On entry, one hour after the burn, the plasma protein was 7.4 Gm., total base 154 milliequivalents per liter and chloride 103 milliequivalents per liter, all within the normal range. Twenty-four hours later the values were respectively 6.2 Gm., 140 milliequivalents per liter and 87 milliequivalents per liter. The protein is still within the normal range but the electrolytes have been diluted to below normal. The required sodium and chloride were not given, so that the total base remained low at 140 for the next ten days. The sodium on the fourth day was 131 milliequivalents per liter and on the sixth was 114 milliequivalents per liter; the chloride slowly fell, so that on the eleventh day it was only 77 milliequivalents per liter. This continued dilution was presumably influenced by the fact that the burns became infected and some edema of the wounds persisted. Finally on the eleventh day a blood transfusion and isotonic solution of sodium chloride were given intravenously. There was a spontaneous remission of the infectious process and the electrolyte pattern returned to normal. This patient received inadequate therapy both of protein and of electrolyte, but particularly of the latter. With the development of dehydration and thirst, the patient filled with water the extracellular reservoir enlarged by the extensive wounds. Sodium and chloride should have been added to the fluids she drank.

The defect of salt dilution from treating with water is remedied by giving salt solution (fig. 2, diagram *D*).

Dextrose is not an effective colloid. It is, however, an important metabolyte and should be added to the saline solution or water. The eventual distribution of electrolytes and protein will depend on the solution in which it is given.

Isotonic sodium lactate is recommended by Fox[22] for the treatment of burn shock. Such therapy recognizes the benefit to be derived from giving an adequate amount of water and sodium. It does not take into account the loss of plasma protein into the burn

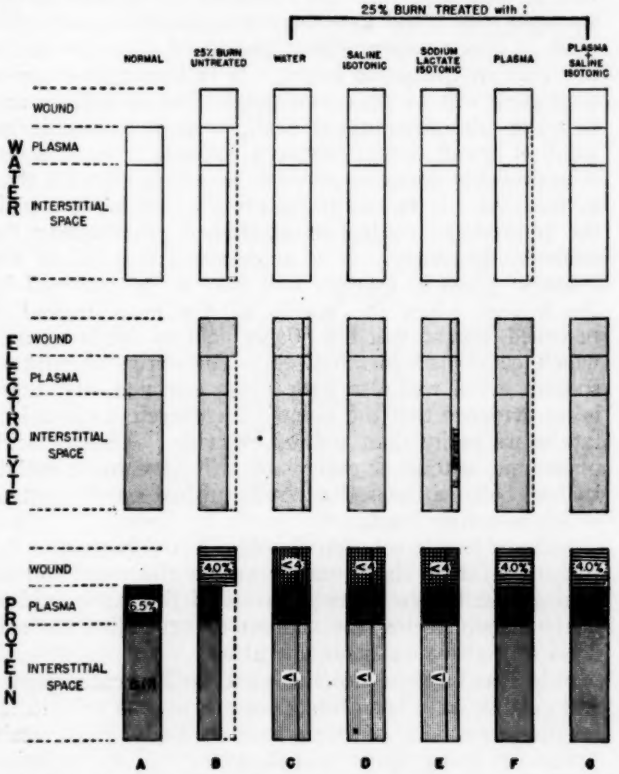

Fig. 2.—Hypothetic distribution of extracellular water, electrolyte and protein in the burned patient. The figures depict no single patient but are a composite of the data of many patients and experimental observations. The diagrams are based on the assumption that 25 per cent of the body surface is burned. The calculations of Elkinton, Wolff and Lee (Plasma Transfusion in the Treatment of the Fluid Shift in Severe Burns, Ann. Surg. **112**: 150 [July] 1940) suggest that similar changes are produced by a burn of less extent. The diagrams are drawn with the supposition that nothing is lost from the wound or kidneys, that nothing is withdrawn from the intracellular space and that the optimal amount of therapy is given in each instance. As the wound swells with edema, the body's capacity for water, electrolyte and plasma protein expands. Degrees of shading under electrolyte and protein indicate different concentrations. Diagram *A*, distribution of extracellular water, electrolyte and protein between blood plasma and interstitial space in the normal. The plasma volume approximates 25 per cent of the extracellular fluid. The average concentration of protein of the interstitial fluid is estimated as 1 per cent; it has not been measured in the human being. Diagram *B*, effect of the burn, untreated. As plasma leaks into the wound, both the plasma and interstitial fluid volume of the unburned tissues are diminished. The capacity of the interstitial space created in the wound in this hypothetic case is equal to the normal plasma volume. The edema fluid is drawn as having a protein concentration of 4.0 per cent. Diagram *C*, effect of treating the burned patient with water. The entire fluid reservoir, the vascular system, the unburned interstitial space and the wound, is filled. The concentrations of electrolyte and protein are reduced throughout. Diagram *D*, effect of treating with isotonic solution of sodium chloride. The entire reservoir is filled with water and there is an approximately normal concentration of electrolyte. The concentration of sodium is normal, that of the chloride above normal. Protein concentration is reduced. Diagram *E*, effect of isotonic sodium lactate solution. The reservoir is filled. The concentration of sodium is physiologic. The concentrations of chloride and protein are reduced. Diagram *F*, the effect of returning to the circulation in the form of plasma that quantity of protein which has been lost into the burn wound. There is a deficiency of both water and electrolyte in the reservoir. Only half of the deficiency of water and electrolyte has been met by the plasma. Diagram *G*, the result of combined plasma and saline therapy. The reservoir is filled with fluid. The concentrations of electrolyte and protein in the plasma and unburned tissue space are normal.

20. Commercially available amino acid solutions which are useful in nutritional failure late in burns should not be used as an electrolyte substitute in burn shock, since in shock there is already an accumulation of unmetabolized amino acids. As far as the author is aware their effect has not been weighed in experimental burn shock.

21. Harkins (personal communication) and the author believe that acceleration of edema formation occurs but it is admittedly difficult to prove clinically. In the experimental animal adequate control is possible, and it has been demonstrated (unpublished data from this laboratory).

22. Fox, C. L., Jr.: Oral Sodium Lactate in the Treatment of Burn Shock, J. A. M. A. **124**: 207-212 (Jan. 22) 1944.

wound on which the circulation is dependent for its colloid osmotic and effective circulating pressure. Fox's patient W. R. had a systolic blood pressure of 70 mm. of mercury, a reading consistent with shock, for eight hours after the onset of sodium lactate therapy. The patient also had a plasma protein level of 4.2 Gm. at thirty-six hours after the burn, a level consistent with extreme plasma dilution.

The chloride deficiency which is concomitant with that of sodium is also not remedied by calcium lactate therapy. As could have been anticipated, the chloride level of Fox's patient descended to 77 milliequivalents per liter at thirty-six hours. It is true that chloride deficiency will be only two thirds that of sodium and that the administration of sodium as sodium chloride solution introduces an excess of chloride. Nevertheless it is probably wiser to give the excess of chloride than none at all. It is still to be proved that lactic acid is the physiologic equivalent of chloride in meeting the chloride deficiency. It is understood that all of the chloride given as therapy will have to be excreted by the kidney when the edema of the burn wound is resorbed, but so will the 50 per cent of the lactic acid which cannot be metabolized. The entire amount of sodium given will also have to be excreted, and there is no evidence that the kidney can excrete sodium lactate more easily than sodium chloride. Another acid, phosphate, ketone or carbonate, will have to be mobilized to balance the sodium relinquished by the lactate which is metabolized.

Sodium lactate solution should effectively combat the acidosis of late shock and promote the excretion of hemoglobin by the kidney. Half of the lactic acid is metabolized, freeing the sodium to neutralize the acidosis and also to alkalize the urine.

Solutions of three nonbiologic colloids, acacia, pectin and gelatin, have been introduced as plasma substitutes for the treatment of burn shock. Body cells retain acacia for many years, and damage from its inclusion is not excluded. Pectin [23] and gelatin [24] solutions satisfactorily restore the osmotic tension lost through plasma leakage. Neither of these two colloid solutions has had adequate clinical trial; both may prove easier to eliminate than plasma protein during the period of edema resorption, in which case their use would be preferable in the extensively burned patient.

Correction of Abnormal Metabolism Induced by Shock.—Prolonged low blood pressure shock with its inadequate supply of oxygen to tissues results in the collection of products of abnormal metabolism. There will be a rise in nonprotein nitrogen, including amino acid, and an electrolyte acidosis induced by an excess of fixed acids, ketone, lactic and pyruvic. The cessation of kidney function increases the concentration of these abnormal metabolites. Solutions containing the sodium ion are indicated for the immediate relief of the acidosis. This will result in a total excess of sodium ion within the body which must eventually be excreted. The amino acids will be metabolized when shock has been relieved and aerobic conditions exist in the liver. Above all, fluid is needed for kidney function. It is believed that the sodium ion given as sodium bicarbonate will promote kidney function in the presence of acidosis. Dextrose intravenously is also helpful in initiating a resumption of kidney function, but again the prime consideration is the relief of shock and the return of an adequate blood flow to the kidney. It is held that vitamin B, particularly thiamine, should be given in shock, since the B group of vitamins are rapidly dissipated and since they are a requisite for the normal carbohydrate metabolism of cells.

CONTROL OF INFECTION

It is to be assumed that all burn wounds are contaminated and therefore may become infected. Immediate covering of the wound and prophylactic chemotherapy are indicated. Since the organisms infecting a burn arrive as contaminants on the wound surface, it is imperative to protect the wound at once by applying an impervious dressing.[9] Chemotherapy, either by mouth or intravenously, is indicated for all burn patients except those with first degree or other burns of small extent in which the epidermis is intact. It may be withheld in a second degree burn in which it is anticipated that the blisters will not rupture.

No one or a combination of chemotherapeutic agents attack all the types of organisms known to infect burn wounds. Penicillin promises more than the sulfonamides, since it controls the staphylococcus as well as the organisms susceptible to sulfonamides. It is hoped that this drug will soon be available in greater quantities. In the meantime, sulfadiazine is the drug of choice. In severely burned patients with ruptured epidermis, the drug should be started early by the intravenous injection of 2.5 Gm. of the sodium salt. Subsequent doses should be given either intravenously or by mouth in quantities adequate to maintain a blood level above 6 mg. per hundred cubic centimeters and below 12 mg. per hundred cubic centimeters. It is probable that sodium bicarbonate or citrate should be concomitantly administered by mouth. Such chemotherapy should be continued until the wound is covered with epidermis firm enough to bar the entrance of organisms. If signs of a toxic reaction to sulfadiazine appear, the drug should be promptly omitted.

Many of the ointments currently recommended for the treatment of burns contain sulfonamides. The drug is absorbed from such preparations, and, if the ointment is applied over an extensive area, toxic levels may be reached.[8] It is easier to control the level of the drug by internal administration alone, and the drug permeates the wound in effective concentrations.

Chemotherapeutic agents other than sulfonamides and penicillin, such as the gentian violet and triple dyes, have been recommended for local use on burn wounds. These dyes at bacteriostatic concentrations are toxic to tissues and therefore delay wound healing.[25]

If prophylactic chemotherapy was not instituted and the burn is already infected when first seen, chemotherapy is indicated together with the general surgical procedures used for established infection.

Specific immune therapy may be indicated for tetanus and streptococcic infections. A small percentage of burned patients develop tetanus. All patients with burns in which the epidermis is broken should be given a prophylactic dose of tetanus antitoxin or a booster dose of tetanus toxoid if the patient has been previously immunized. If a streptococcic infection develops in a

23. Hartman, F. W.; Schelling, V.; Harkins, H. N., and Brush, B.: Pectin Solution as a Blood Substitute, Ann. Surg. **114:** 212-225 (Aug.) 1941.

24. Parkins, W. M.; Koop, C. E.; Riegel, C.; Vars, H. M., and Lockwood, J. S.: Gelatin as a Plasma Substitute, with Particular Reference to Experimental Hemorrhage and Burn Shock, Ann. Surg. **118:** 193-214 (Aug.) 1943.

25. Cannon, B., and Cope, O.: Rate of Epithelial Regeneration: A Clinical Method of Measurement, and the Effect of Various Agents Recommended in the Treatment of Burns, Ann. Surg. **117:** 85-92 (Jan.) 1943.

patient sensitive to sulfonamides and for whom penicillin is not available, immunotransfusion [26] should be considered.

A sound physiologic state of the body and careful attention to surgical detail may decide the fight against infection. The importance of combating shock and anoxia has been mentioned. Proper nutrition and fluid balance are necessary for the elaboration of protein immune bodies and the destruction of bacterial toxins. It is impressive how immobilization of the wound by a firm splint dressing and the avoidance of contamination with new organisms by dressing the wound only in the operating room decelerates the infectious process.

PROMOTION OF WOUND HEALING

No chemical agent is known which expedites wound healing above the physiologic optimum pertaining under the state of normal nutrition and the absence of infection. Substances such as Biodyne, vitamin ointments and light filters are foisted on us under the mistaken impression that they accelerate cellular regeneration. Critical analysis does not confirm the claims. It is possible that a principle will be discovered which will enable cells to multiply at a rate above that of normal tissue. In the meantime the substance to be applied locally to wounds is one which is known to be noninjurious to tissues.

General hygienic measures must be undertaken to bring the disturbed nutritional state of the burned patient back to normal. Whole blood transfusions for anemia, a high protein high vitamin palatable diet, together with adequate sleep, relief of anxiety and proper intestinal function are the measures.

Repeated whole blood transfusions are needed in the treatment of severely burned patients with infected wounds. Infectious toxemia is accompanied by a decrease in red cell volume and oxygen carrying capacity of the blood. The blood hematocrit gives the clue to the extent. The fall in hematocrit due to the decrease in number of red cells must be differentiated from that due to the hemodilution which occurs during the period of resorption of edema fluid. Whole blood transfusions are indicated in the former condition but may be hazardous in the latter, since the plasma volume may already be increased and transfusion may precipitate pulmonary edema. In both cases the oxygen carrying capacity of the blood must be built up to permit adequate kidney function. Rigid restriction of fluid intake, rather than transfusion, is indicated in the pseudo anemia of hemodilution.

There may not be an adequate supply of iron available within the body, and therapy is therefore indicated for the reconstruction of hemoglobin.

Infection results in rapid destruction of plasma protein as well as a decrease in circulating hemoglobin. A high intake of protein in the diet is therefore indicated from the beginning. The transfusions given for the anemia will augment the diet. The parenteral administration of amino acids is economical but probably not as efficient as transfusions.

SUMMARY

The chemical treatment of burns encompasses shock, its prevention and metabolic consequences, the control of infection, the promotion of wound healing and the maintenance of nutrition. The rationale for the therapy of each is dependent on a knowledge of the pathologic physiology of the burn wound.

26. Lyons, C.: Immunotransfusion and Antitoxin Therapy in Hemolytic Streptococcus Infections, J. A. M. A. **105:** 1972-1975 (Dec. 14) 1935.

The wound enlarges the body's reservoir for water, electrolyte and protein. All three should be given in the treatment of shock and in amounts sufficient to restore their normal concentrations. When water only is given, the electrolyte and protein in the plasma and interstitial space become dilute, but water alone is better than no treatment at all. Water and salt will fill the reservoir, but only when plasma protein is given in conjunction does the plasma volume possess an adequate colloid osmotic pressure.

Even more favorable results than those obtained with sulfadiazine in the control of infection are to be anticipated from the prophylactic use of penicillin.

No substance is known which expedites the healing of the wound above that obtained under conditions of normal nutrition and absence of infection. The optimal care of the burn surface consists in covering it promptly with a dressing impervious to bacteria and one which contains nothing injurious to cells.

THE GENERAL CARE OF THE BURNED PATIENT

CONRAD R. LAM, M.D.
DETROIT

It is easier to write an article on the general treatment of a patient with burns now than it was two or three years ago. Much controversial matter appears to have been settled, and certain previously recommended procedures can be omitted or will be mentioned only to be condemned. There has been a healthy change in the attitude of surgeons toward thermal injury; the trend has been toward simplification and uniformity, with the burn being regarded as a wound which will react favorably to many of the fundamental surgical methods which are commonly used in other kinds of trauma.[1] If this point of view in local treatment is extended to include general care, one may consider that the burned patient differs in only a few respects from patients with other surgical conditions, and this difference is one of degree only. I wish to stress especially that the care of burns has become vastly easier since the abandonment of tanning methods and the adoption of the large occlusive dressings described elsewhere in this symposium. For example, the stage of liver insufficiency and "toxemia" which so often ended with death on the third to the fifth day is unknown in nontanned patients.

General treatment will be considered under the following headings: (1) management of shock and certain shocklike symptoms, (2) nutrition and fluid balance, (3) general measures to combat infection and (4) nursing care.

SHOCK AND SHOCKLIKE SYMPTOMS

The term "burn shock" has been used extensively, and this may have led to an erroneous conception in the minds of some that there is a special kind of shock in burns which should respond to specific treatment in the form of the injection of this or that drug parenterally. The number of recommended substances and

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Many of the conclusions and the 2 case reports are based on work done in conjunction with Roy D. McClure and under a contract recommended by the Committee on Medical Research between the Office of Scientific Research and Development and the Henry Ford Hospital.

1. McClure, R. D.: The Modern Treatment of Burns, Surg., Gynec. & Obst. **66:** 1064 (June) 1938. Whipple, A. O.: Basic Principles in the Treatment of Thermal Burns, Ann. Surg. **118:** 187 (Aug.) 1943.

the enthusiasm of the investigators who work with them has been augmented by two conditions: (1) the apparent inclination of experimental animals, especially rats, to fare statistically better than controls when treated with any method which is being tested and (2) the stubborn tendency to recover in all cases in man, regardless of the type of treatment. The burned patient may show some symptoms commonly referred to as "shock," but it is unnecessary to look for some hypothetical substance, e. g. a histaminoid, to explain them. Probably the cause can be found in the simple outline given in the accompanying table, which was suggested by Norman E. Freeman and published by Lee.[2] I have changed the order of the items to conform to the sequence in which they should be considered for burns and have added the item of plasma loss.

This outline might be consulted with profit in the symptomatic treatment of the patient with acute burns. Pain is first on the list and justly so. It is the duty of the medical attendant to relieve this symptom adequately and rapidly. Morphine remains the drug of choice. There is some evidence that an excessively large dose may not alleviate pain more than a moderate one, while the former carries with it the danger of respiratory depression. Above all, it is essential that one does not try to treat restlessness or mania due to anoxia with morphine. Beecher[3] emphasized this point

Causes and Treatment of "Shock"

Cause	Treatment
Pain	Morphine
Fear	Reassurance
Cold	Warmth
Asphyxia	Oxygen
Exhaustion	Rest
Dehydration	Fluid
Plasma loss (as in burns)	Plasma
Hemorrhage	Transfusion

in his account of the management of the Boston Cocoanut Grove victims at the Massachusetts General Hospital. Injury to the respiratory tract was common and serious, and it was felt that excessive doses of morphine had been detrimental in several cases. The following instructive case was recently observed in the Henry Ford Hospital:

N. K., a boy aged 12 years, was sleeping in a tent during a camping expedition. At 4 a. m. the fire which was necessary on account of the extremely cold weather spread to his bedding, and he received deep second degree burns of the face and hands. He was admitted the next morning, and petrolatum dressings were applied to the burned areas. It was noted that he was hoarse, a condition which was tentatively attributed to a cold. During the ensuing night considerable dyspnea and stridor developed, and the next morning an oxygen tent was placed over him. There was no relief of the dyspnea, nor was any benefit derived from mask inhalations of an oxygen-helium mixture (25-75). At noon on the second day the patient had become irrational and was thrashing wildly about his bed. A house officer suggested morphine for the extreme restlessness. Fortunately this suggestion was not followed, but, instead, tracheotomy was carried out. This relieved the dyspnea completely; the boy became rational immediately and lay quietly in bed. Henceforth his recovery was uneventful.

It was obvious that serious burns of the respiratory tract did not extend below the glottis. This experience would suggest that tracheotomy should not be withheld from any patient with signs of dangerous oxygen lack which is due to burns of the air passages.

The intravenous route for morphine should not be forgotten, since, as Beecher has pointed out, there may be poor absorption from the subcutaneous tissues or muscles in severely injured patients with depressed peripheral circulation. For this route smaller doses are used (⅛ to ⅙ grain, or 0.008 to 0.011 Gm.). For sedatives in the treatment of fear and hysteria, repeated doses of barbiturates intravenously are useful, e. g. sodium pentobarbital (nembutal) in 90 mg. (1½ grain) doses.

A burned patient may be chilled, owing to exposure in inadequate clothing or having been drenched with cold water. Such a patient will show some signs of shock due to cold, and for him external heat in moderation is indicated. But beyond this heat plays no useful part in burn therapy. The patient should be kept in a comfortable environment, with the temperature of the room preferably not more than 75 F. The so-called "burn tent" with the battery of electric lights is rapidly passing from our hospitals. The cold extremities of the patient in true shock from burns or other trauma appear to be the result of a compensatory phenomenon to conserve blood volume for the vital centers. Efforts to produce vasodilatation and thereby warm up such extremities may do serious harm.[4] Experimentally, the survival rate of burned rats was notably affected by environmental temperature.[5]

The extraordinary amount of soft tissue injury in an extensive burn results in a condition which gives "burn shock" its only claim to individuality. I refer to the loss of plasma from the vascular tree which produces hemoconcentration as indicated by high hematocrit, hemoglobin and erythrocyte count values. Several complicated formulas have been suggested for estimating the plasma deficit. I have found the formula of Harkins[6] useful. This states that, for every point the hematocrit is above the normal of 45, 100 cc. of plasma should be given. This would apply to an average adult weighing 150 pounds (68 Kg.), and proportionally less would be given to children. Harkins also suggested a simple first aid rule, which is that 50 cc. of plasma should be given for each per cent of the body surface which is burned. This could be expressed as a pint of plasma for each 10 per cent of body surface. The latter rule was utilized with satisfaction by Cope and his associates[7] in the treatment of the Cocoanut Grove casualties at the Massachusetts General Hospital.

The following case shows how plasma was employed with a patient with moderately severe burns:

E. S., a boy aged 16 years, was burned on April 21, 1942 when his oil soaked trousers caught fire. He sustained second degree burns of an area estimated as 22 per cent of the body surface (fig. 1). A hematocrit reading of 55 was obtained (fig. 2). Since this was 10 points above normal, it was estimated by Harkins' formula that 10×100 cc., or 1 liter, was necessary to correct the hemoconcentration. Actually he received 900 cc., which brought the hematocrit to normal. It should be noted that a part of the hemoconcentration was due to simple dehydration, as indicated by the high plasma protein value (8 Gm. per hundred cubic centimeters).

2. Lee, W. E.: The General Surgeon's Approach to the Problems Presented by Fractures and Other Traumas, Surg., Gynec. & Obst. **74**: 514 (Feb.) 1942.

3. Beecher, H. K.: Resuscitation and Sedation of Patients with Burns Which Include the Airway, Ann. Surg. **117**: 825 (June) 1943.

4. Blalock, A., and Mason, M. F.: A Comparison of the Effects of Heat and Those of Cold in the Prevention and Treatment of Shock, Arch. Surg. **42**:1054 (June) 1941.

5. Elman, R.; Cox, W. A.; Lischer, C., and Mueller, A. J.: Mortality in Severe Experimental Burns as Affected by Environmental Temperature, Proc. Soc. Exper. Biol. & Med. **51**:350 (Dec.) 1942.

6. Harkins, H. N.; Lam, C. R., and Romence, H.: Plasma Therapy in Severe Burns, Surg., Gynec. & Obst. **75**: 410 (Oct.) 1942.

7. Cope, O., and Rhinelander, F. W.: The Problem of Burn Shock Complicated by Pulmonary Damage, Ann. Surg. **117**: 915 (June) 1943.

In summary it may be stated that the shock factor in the patient with acute burns is treated by relieving pain with the proper analgesic, alleviating the symptoms of fear, cold and exhaustion by appropriate measures, and restoring blood volume when necessary by plasma infusion. It will be noted that adrenal cortex extract,

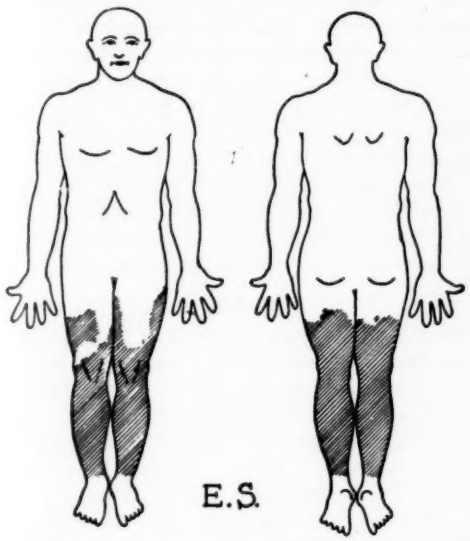

Fig. 1.—Burned areas of E. S. Approximately 22 per cent of body surface burned.

desoxycorticosterone acetate and similar preparations have not been recommended for reasons discussed at length elsewhere.[8]

NUTRITION AND FLUID BALANCE

With the patient with a moderate burn who is in the hospital about two weeks, there is no problem of nutrition. The order might read "Diet as tolerated." However, if there are large areas of third degree burn, the convalescence is inevitably complicated by more or less sepsis and multiple skin grafting operations under general anesthesia. There is loss of appetite at a time when a larger food intake is needed. There is loss of body proteins by necrosis and exudation, increased nitrogen excretion in the urine and increased metabolism due to fever. Therefore it becomes necessary to give maximum quantities of food by mouth, and frequently this must be supplemented by intravenous alimentation.

Special studies of a number of Cocoanut Grove victims were carried out at the Boston City Hospital.[9] Most of the patients responded to diets of 3,000 calories, of which 100 to 125 Gm. was protein. One seriously burned patient became edematous with a very low plasma protein level, and it was only by heroic feeding methods that the deficit was corrected. A maximum daily intake of 500 Gm. of protein was obtained by feeding a high caloric, high protein, high vitamin diet by stomach tube and giving intravenous amino acids, plasma and human albumin. The intubated food was supplemented by 30 to 40 Gm. of brewers' yeast, 20,000 units of vitamin A, 100 units of vitamin D, 200 mg. of ascorbic acid, 20 mg. or riboflavin and 200 mg. of nicotinamide daily.

For preventing and correcting dehydration, one may follow one of the usual clinical rules which have been applied to other conditions.[10] Sufficient fluids should be given by mouth to obtain a urinary output of 1,000 cc. daily as soon as possible. If vomiting occurs, intravenous solutions are given. It should be remembered that an excess of salt may be given with large amounts of isotonic solution of sodium chloride; 5 per cent dextrose is an alternative.[11]

GENERAL MEASURES TO COMBAT INFECTION

It is almost axiomatic that measures to promote the general well being of the patient, such as maintenance of adequate nutrition, correction of anemia by transfusion and the prevention of shock, will decrease the likelihood and seriousness of infection. There has been widespread hope that chemotherapy with the sulfonamides would reduce the incidence of infection. With this in mind the Cocoanut Grove patients at the Massachusetts General Hospital were given sulfadiazine.[12] It was found that the blister fluid of these patients contained bacteriostatic amounts of the drug. Infection was not a serious complication in these cases, but there was no control series. On the other hand, Meleney's [13] report of the cases studied by a number of National Research Council projects indicated that the incidence of infection in burns was not affected by sulfonamide therapy. Of 141 patients treated with general sulfadiazine, 31.2 per cent became seriously infected and 19.9 per cent were trivially infected, a total incidence of 51.1 per cent! Of the patients not treated with the drug, 10.4 per cent were seriously infected and 24.9 trivially infected, a total of only 35.3 per cent. It was concluded that the use of the sulfonamides did not lessen the incidence of local infection.

Naturally, there is hope at the present time that penicillin will be useful in preventing and treating the stage of sepsis in burns. No statistically significant figures are available at the time of the writing of this paper. I have treated 3 patients with penicillin, with gratifying results in 2. These patients had extensive third degree burns, and some of the later stages of skin grafting were entirely unsuccessful on account of infection.

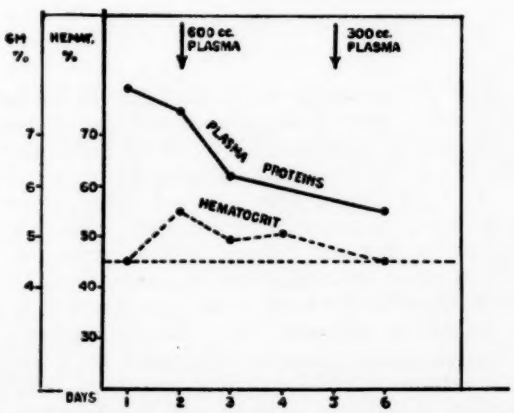

Fig. 2.—Effect of plasma therapy on the hemoconcentration resulting from burns (patient E. S.).

Subsequently there was a good take of the grafts when they were kept moist with small packs wet with penicillin solution (100 units per cubic centimeter) and

8. McClure, R. D., and Lam, C. R.: The Shock Factor in Burns and Its Treatment, Univ. Hosp. Bull., Ann Arbor **9:** 62 (July) 1943.
9. Taylor, F. H. L.; Levenson, S. M.; Davidson, C. S.; Browder, N. C., and Lund, C. C.: Problems of Protein Nutrition in Burned Patients, Ann. Surg. **118:** 215 (Aug.) 1943.
10. Maddock, W. G., and Coller, F. A.: Water Balance in Surgery, J. A. M. A. **108:** 1 (Jan. 2) 1937.
11. Lam, C. R.: The Chemical Pathology of Burns: A Collective Review, Surg., Gynec. & Obst. **72:** 390 (April) 1941.
12. Cope, O.: The Treatment of the Surface Burns, Ann. Surg. **117:** 885 (June) 1943.
13. Meleney, F. L.: The Study of the Prevention of Infection in Contaminated Accidental Wounds, Compound Fractures and Burns, Ann. Surg. **118:** 171 (Aug.) 1943.

the patients were given 100,000 units daily by the intramuscular route (12,500 units every three hours). The third patient died from staphylococcic septicemia after three weeks. He received what is now believed to be inadequate penicillin treatment, i. e. 40,000 units daily and no local packs.

NURSING CARE

Space does not permit an adequate coverage of this phase of burn treatment. The seriously burned patient needs the services of a special nurse who is patient, watchful and sympathetic and who preferably has had previous burn case experience. The exigencies of warfare, civil disaster and economic status will often preclude such care. Important items in nursing care are (1) providing comfort by the administration of medications, adjusting the room temperature and doing a hundred little things, such as applying cold cream to parched lips, (2) extending and reinforcing dressings, (3) providing and forcing fluids and food as outlined, (4) giving scrupulous attention to "pressure areas" to prevent decubitus ulcers and (5) serving constantly as a physical therapist, encouraging motion of all possible joints in order that when the skin is healed there shall be no disability from lame shoulders, knee contractures, foot drops and claw hands.

The adequate general care of the burned patient demands much from the hospital personnel, including doctors, nurses and orderlies. However, the reward of seeing such a patient recover and return to normal life is ample.

EDITORIAL NOTE.—This paper and the two papers by Drs. Harkins and Cope, which precede it, together with the four papers by Drs. Lee and Rhoads, Koch, Gurd and Gerrie and Davis, to appear next week, constitute a symposium on the treatment of burns.

STUDIES ON PROTHROMBIN

VI. THE EFFECT OF SYNTHETIC VITAMIN K ON THE PROTHROMBINOPENIA INDUCED BY SALICYLATE IN MAN

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In their studies on the causative agent of the hemorrhagic sweet clover disease, dicumarol, 3-3'-methylene-bis-(4-hydroxycoumarin), Link and his students found that the prothrombinopenia inducing agent is active in vivo only and that a latent period exists before the prothrombinopenia becomes detectable. These facts led to the thesis that the delayed action occurs, at least in part, because the methylene bis-coumarin must first be metabolized in the body to a derivative which is, or from which is liberated, the effective agent. The quantitative degradation of dicumarol to 2 mols of salicylic acid prompted the agricultural chemists to study the action of salicylic acid on the prothrombin level (or activity) of the blood. They demonstrated in rats that salicylic acid can induce prothrombinopenia and that such prothrombinopenia can be prevented by vitamin K.[1]

Following this, investigations conducted by Meyer and Howard[2] and by Shapiro, Redish and Campbell[3] established that the fundamental observations made on the rat apply to man also.

The possible clinical significance of the prothrombinopenia inducing action of salicylate as a cause of hemorrhage has recently been brought to light by English clinicians.[4] As was implied by Link,[1] they point out that vitamin K might be used prophylactically for patients receiving salicylates in large and continued doses. It has been possible to prevent the prothrombinopenia induced by 6 Gm. of acetylsalicylic acid given for one day by the intramuscular administration of 1 mg. of synthetic vitamin K.[3] My purpose in the present communication is to report the results of studies on the protective action of synthetic vitamin K against the prothrombinopenia produced by the more continued use of salicylate.

MATERIAL

Seventeen adults varying in ages between 22 and 76 were studied. In most of the instances the salicylate was used for therapeutic purposes. In addition to cases of chronic arthritis there were included in the group 3 cases of acute rheumatic endocarditis and 1 case of sickle cell disease.[5] In each subject the nutritional state was satisfactory and the food intake was adequate. The prothrombin time was normal during the control period in every case.

METHOD OF PROTHROMBIN ASSAY

The procedure used to estimate the prothrombin level (or activity) is based on the method of Quick[6] and includes estimation of the prothrombin time of whole and diluted (12.5 per cent) plasma. The rationale and clinical and experimental applications have been described in previous communications.[7] The greater sensitivity of the prothrombin time of 12.5 per cent plasma over that of whole plasma has been demonstrated also.

The thromboplastin used was prepared from fresh rabbit lung. All estimations were done in duplicate. The established normal standard for 12.5 per cent plasma was 39.5 seconds (standard deviation $\pm$ 2.5). Plasma was obtained by the addition of 4.5 cc. of venous blood to 0.5 cc. of $\frac{1}{10}$ molar sodium oxalate and centrifugation.

PROCEDURE

The salicylate and the synthetic vitamin K were given orally in three or four equally divided doses except where otherwise designated. Several estimations of the prothrombin time were executed during the

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This work was done in part at the Hospital of the Home of the Daughters of Israel, New York City.
The synthetic vitamin K (Menadione Bisulfite) used was supplied by Dr. Samuel M. Gordon, Endo Products, Inc., Richmond Hill, N. Y.
From the Third (New York University) Division, Goldwater Memorial Hospital, Welfare Island, and the Department of Medicine, New York University College of Medicine.

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2. Meyer, O. O., and Howard, B.: Production of Hypoprothrombinemia and Hypocoagulability of the Blood with Salicylates, Proc. Soc. Exper. Biol. & Med. **53:** 234, 1943.
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4. Salicylates and Hemorrhage, Annotations, Lancet **2:** 419, 1943.
5. Murphy, R. C., Jr., and Shapiro, S.: Sickle Cell Anemia: I. Observations on the Behavior of the Erythrocyte in Sickle Cell Disease; Description of an Improved Technic for Studying the Red Blood Cells, Arch. Int. Med., to be published.
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7. Shapiro, S.; Sherwin, B.; Redish, M., and Campbell, H. A.: Prothrombin Estimation: A Procedure and Clinical Interpretations, Proc. Soc. Exper. Biol. & Med. **50:** 85, 1942. Shapiro, S.; Sherwin, B., and Gordimer, H.: Postoperative Thromboembolization, Ann. Surg. **116:** 175, 1942. Shapiro, S., and Sherwin, B.: Studies in Thrombo-Embolization: II. Observations on the Use of Dicumarol (3-3'-Methylene-bis-[4-Hydroxycoumarin]) in Embolization; Report of Five Cases, New York State J. Med. **43:** 45, 1943. Shapiro, S.; Redish, M. H., and Campbell, H. A.: Studies on Prothrombin: II. The Effects of a Single Small Dose of Dicumarol (3-3'-Methylene-bis-[4-Hydroxycoumarin]) in Liver Disease, Am. J. M. Sc. **205:** 808, 1943; Prothrombin Studies: III. Effect of Vitamin K on Hypoprothrombinemia Induced by Dicumarol in Man, Proc. Soc. Exper. Biol. & Med. **52:** 12, 1943. Flood, E. P.; Redish, M. H.; Bociek, S. J., and Shapiro, S.: Thrombophlebitis Migrans Disseminata, New York State J. Med. **43:** 1121, 1943. Shapiro, Redish and Campbell.[3]

control period before medication was commenced. Following this the prothrombin time was measured almost daily, at least five times each week. Acetylsalicylic acid was used exclusively. When the prothrombin time became prolonged the drug was discontinued until the prothrombin time returned to normal, when the medication was resumed and in addition to it menadione in the doses detailed later. Exceptions to this outline are indicated in the text.[8]

RESULTS

Sixteen subjects received 6 mg. of acetylsalicylic acid per day; 1 patient with acute rheumatic endocarditis, 5 Gm. daily. In 4 cases it was necessary to discontinue the medication because of intolerance to the drug. It is noteworthy that 2 of these disclosed unaltered prothrombin time after 30 Gm. of the salicylate had been ingested.

The remaining 13 subjects showed prolongation of the prothrombin time commencing the third to the fifth day after the initial dose of salicylate. Five of these received 2 mg. of menadione perorally daily. Two of the latter showed protection against the prothrombinopenia inducing action, the prothrombin time of the diluted plasma remaining within normal limits. Two days after both drugs were discontinued the prothrombin time increased spontaneously and was promptly restored to normal by a parenteral injection of 6 mg. of menadione. In the remaining 3 cases the prothrombin time became prolonged approximately the same as when salicylate alone was ingested.

Summary of Results

No. of Cases	Dose of Salicylate Daily	Extent of Prothrombinopenia After Salicylate	Dose of Menadione Daily	Number of Cases Protected by Vitamin K
5	6 Gm.	Moderate*	2 mg.	2
5	6 Gm.	Moderate	6 mg.	5
2	6 Gm.	Moderate	9 mg.	2
1†	5 Gm.	Moderate	2, 6 and 9 mg.	Partial protection after 9 mg.

* Moderate: prolongation of the 12.5 per cent prothrombin time between approximately one and one half times and plasma twice normal.
† Complete protection during period when 400 mg. daily of ascorbic acid was added (intravenously).

Five subjects were given 6 mg. of menadione daily and showed protection against prothrombinopenia as follows: Two exhibited increased prothrombin time after receiving salicylate for only two days and showed normal prothrombin time when synthetic vitamin K was added; 3 others exhibited prothrombinopenia following the ingestion of acetylsalicylic acid for one week and normal prothrombin time after the administration of 1 mg. of menadione for each gram of the salicylate taken. In 1 of these slight prolongation of the prothrombin time was detected for two days following withdrawal of both drugs, after which it spontaneously returned to normal.

Two patients were given 1.5 mg. of menadione to each gram of acetylsalicylic acid which had previously induced prothrombinopenia. Both exhibited complete protection, the prothrombin time remaining normal. One of these also showed slightly prolonged prothrombin time after both drugs were withdrawn, similar to the experience just noted.

One patient with acute rheumatic endocarditis was observed daily for eight weeks. Evidences of rheumatic activity including accelerated erythrocyte sedimentation rate were present during the entire period. The prothrombin time, which was normal initially, became prolonged on the second day of salicylate medication. Although the drug was withdrawn on the fifth day the prothrombin time remained increased even after the administration of 6.5 mg. of synthetic vitamin K for three days. Subsequently the salicylate medication was resumed and 9 mg. of menadione was administered daily. During the first six days almost complete protection against the prothrombinopenia occurred, but following this the prothrombin time gradually increased despite the continuance of the antihemorrhagic substance. Commencing on the seventeenth day 400 mg. of ascorbic acid was given intravenously daily for four successive days (in addition to the salicylate and menadione) and this was followed by a reduction of the prothrombin time to almost normal, which, however, became prolonged again immediately after the discontinuance of the ascorbic acid. Repetition of parenteral ascorbic acid was followed again by restoration of the prothrombin time to normal, which increased promptly

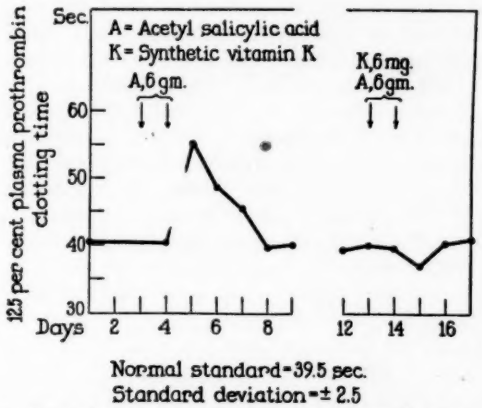

Chart 1.—Protective action of 6 mg. per day of synthetic vitamin K against the prothrombinopenia induced by 6 Gm. daily of acetylsalicylic acid.

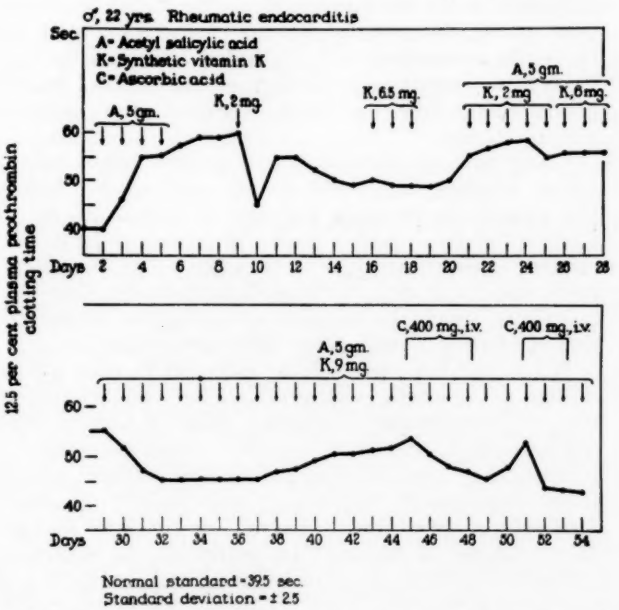

Chart 2.—Prothrombinopenia induced in a case of acute rheumatic endocarditis by 5 Gm. per day of acetylsalicylic acid and failure of doses of 2 to 9 mg. daily of synthetic vitamin K to neutralize this effect. The addition of 400 mg. per day of ascorbic acid administered intravenously restored the prothrombin time to normal.

8. In 1 case (of sickle cell disease) the prothrombin time of both arterial and venous plasmas was studied (Shapiro, S.: Studies in Prothrombin: V. Arterial and Venous Plasma Prothrombin Time in Man, J. Lab. & Clin. Med. **28**: 1596, 1943). No significant difference between these was noted.

after the withdrawal of the vitamin C. This was repeated on three successive occasions, each time with the same sequence of responses.

COMMENT

The prothrombinopenia inducing effect of salicylate is a significant contribution to the possible understanding of the pharmacologic action of one of the foremost drugs used in medicine. Much work has been reported on the fate of salicylates within the body and some of their biologic effects.[9] Although the degradation product which is responsible for its influence on prothrombin is not yet decided, it nevertheless appears that the site of its activity is probably in the liver, for detoxification of salicylic acid is apparently accomplished by the formation of glucuronides. Hence the nutritional state of the individual, especially in respect to glycogen reserves,[10] should influence the response to salicylates. The importance of vitamin C in the mechanism, at least under certain conditions, is illustrated by the case that has been described in detail.

It appears that salicylate poisoning is a more serious problem in other countries, particularly Great Britain, than in the United States.[11] This might be accounted for by differences in diet, especially the freer consumption of fresh green vegetables in this country, which would augment the vitamin K intake.

The incidence of salicylate induced prothrombinopenia as a contributory cause of hemorrhagic phenomena will have to be determined by future observations when clinicians will have become more aware of the possibility. However, since salicylates alter the level (or activity) of prothrombin, prothrombin estimations should be made to determine the extent of this effect, especially when salicylates are used for continued periods of time. The studies reported indicate that prolongation of the prothrombin time is the most common effect; occasionally normal prothrombin time will be found compatible with extended salicylate therapy; in several instances reduction of the diluted plasma prothrombin time has been observed after salicylate administration.

There are no fixed levels of prothrombinopenia at which bleeding is known to be established. Indeed, the factors responsible for the maintenance of the integrity of the capillary wall still remain to be demonstrated. Consequently, except when a prothrombinopenic state is desired, prolonged prothrombin time after salicylates should be restored to normal by administration of vitamin K and, when necessary, vitamin C.

It has not been possible to establish in man a fixed dosage of synthetic vitamin K which will counteract the prothrombinopenia inducing effect of a given quantity of salicylate. Such possible relationship may be influenced by other factors such as the primary disease, fever, nutritional limitations and hepatic disorders. However, it appears that generally approximately 1 mg. of menadione is required to neutralize the prothrombinopenia inducing effect of 1 Gm. of acetylsalicylic acid.

For estimation of the prothrombin time we have found the most sensitive and most reliable method to be that which utilizes diluted (12.5 per cent) plasma. For proper execution this requires a thromboplastic agent of high activity, and for such an extract fresh rabbit lung has been found to be the best source.

SUMMARY

The level (or activity) of prothrombin should be determined by estimation of the prothrombin time when salicylate therapy is used.

Approximately 1 mg. of synthetic vitamin K will counteract the prothrombinopenia inducing action of 1 Gm. of acetylsalicylic acid. When factors such as fever, toxemia and limited nutritional intake complicate the situation, adjuvants such as ascorbic acid might be needed also. This is determined by serial estimations of the prothrombin time. This procedure has been found to be most sensitive and reliable when diluted (12.5 per cent) plasma is used.

45 East Eighty-Fifth Street.

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RATIONALE OF NAVAL RECRUIT SELECTION METHODS

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The futility of judging the efficacy of neuropsychiatric selection procedures by emphasizing individual failures or by referring to small series of cases is apparent, for to be accurate the evaluation must be made in the light of the over-all picture. Any screening method, no matter how fine the mesh, will overlook instances of seemingly manifest psychopathology and eliminate others who in spite of suspected unfitness are capable of satisfactory performance under stress. These errors, however, do not negate the usefulness of neuropsychiatric selection methods in use in induction and training stations; they simply indicate that there are limitations to the ability of psychiatrists to detect all those who may possibly sustain neuropsychiatric breakdowns in the military service. It is true that more time could be spent profitably in the induction center neuropsychiatric examination should the circumstances permit, but the fact is that the exigencies of war have not permitted it. Hence the psychiatrist has been required to make the best of the short time at his disposal. The Selective Service System has tried to remedy this defect by assembling as much information as is attainable before the inductee arrives at the induction station. This auxiliary procedure is fully described in Selective Service Medical Circular No. 4.

From a naval service standpoint, there are four categories into which all of the psychiatrically unfit, potential or active, will fit:

Group 1 is composed of those who are obviously unfit and whose disability is frankly self evident during the course of a short psychiatric examination. These persons may be detected in the induction centers, and they account for most of induction center rejections.

From the Bureau of Medicine and Surgery, Navy Department.
This article has been released for publication by the Division of Publications of the Bureau of Medicine and Surgery of the U. S. Navy. The opinons and views set forth in this article are those of the writer and are not to be considered as reflecting the policies of the Navy Department.

Group 2 is made up of those borderline persons who are questionably fit but concerning whom further historical data or a period of observation, or both, are required in order to evaluate more accurately their fitness for military duty. In the naval service these men can be detected at the naval training stations, where, after a period of observation and trial duty, aptitude or inaptitude for the service can be demonstrated.

Group 3 consists of those who are potentially unfit but not obviously so, since they are able to adjust reasonably satisfactorily for a period of time. However, their adjustment is of the type which becomes strained after about six months of attempted adaptation with only mediocre success, and at this period of their military careers they usually begin to show evidence of their underlying difficulties. Usually, when the pressure and tempo of military life are increased, the symptoms of breakdown appear. In the naval service the peak of this type of maladaptation occurs within the first twelve months. The persons in this group are, according to Naval Regulations, separated from the service only after hospitalization and study by a duly constituted board of medical survey.

Group 4 represents those who, according to the most proficient tests, have met the highest standards of psychiatric fitness. To all intents and purposes they are normal, well integrated individuals, but when confronted with the greater than normal stress of actual combat or prolonged operational duties they for the first time show definite evidence of functional disabilities. These persons are then admitted to naval mobile or base hospitals and eventually find their way back to the United States if readjustment is not possible.

The neuropsychiatric census of most naval hospitals in the United States remains fairly constant except for the hospitals along the coast line, where the population reflects the fluctuation in the incidence of overseas breakdowns. A statement of the neuropsychiatric census of base hospitals, dispensaries and sick bays outside the continental limits is at present not possible because of security reasons, yet there is reason to believe that the psychotic population is much lower than would be expected in a cross section of a civilian population. For the most part casualties in these areas belong to groups 3 and 4, as just described, the only point of distinction being that the stress of combat duty was required to precipitate their breakdown.

It is patent that there are so many variable factors operative in groups 2, 3 and 4 that there can be no test situation, no battery of psychologic examinations and no psychiatric examination which will efficiently and consistently predict the likelihood of breakdown in any given case with sufficient accuracy to be of absolute prophylactic value. The most reliable criteria for predicting these occurrences are time and observation in the actual situation of stress.

It is for this reason that present naval procedures require the reexamination of recruits immediately on their reporting to naval training stations even though the elapsed time since the induction station examination is only a few weeks. Not only is the benefit of additional psychiatric opinion obtained in this manner, but there are also additional advantages. Recruits can be held in observation wards until such time as the psychiatrist has had an opportunity to study them more thoroughly than is permitted by a brief interview. Any one who is believed to be mentally or emotionally unfit for service is again carefully examined and, if the impression is corroborated, he is then brought before an aptitude board for final review and decision. It is the function of this board to decide on the merits of the examinations and determine whether or not the recruit shows inaptitude for the naval service. There are no provisions for limited service, and therefore those men who are selected as being suitable material for further training have to have more than a likelihood of being able to meet service standards. This determination per se is in no way an estimation of the man's capacity to adjust in a less demanding civilian situation. It merely determines his capacity to adjust in the U. S. Navy, for if the recruit is to be of value in the Navy he must be ready for any type of duty anywhere at any time.

A survey of the neuropsychiatric conditions of the armed forces to date amply substantiates the wisdom of grouping the neuropsychiatric casualties as outlined. A sufficient body of statistics has been accumulated on which to assume that the foregoing estimations of frequency and occurrence in the categories already delineated are reliable. Observations based on experience since the declaration of the national emergency have corroborated the long held psychiatric opinion that the best test of a man's fitness for military service is a careful clinical neuropsychiatric examination. "Pencil and paper tests" and various other psychologic tests are extremely useful because they are factual and standardized and remain as concrete records of the man's performance at the time of the examination and lend themselves to comparison, but the results of these tests have to be validated by, as well as coordinated with, the clinical psychiatric examinations and actual service adjustments.

As the time permitted for the neuropsychiatric examination in the various induction centers is extremely brief, it follows that for the most part only group 1 patients can be expected to be recognized in such a short superficial neuropsychiatric appraisal.

It is obvious that the benefit which accrues from the screening procedures at the naval training stations is, by and large, attributed to the observation and trial of duty period for four to six weeks which permits conclusions to be based on performance capacity in an actual test adjustment situation. Reports of the capability of the recruit submitted by his company commander are based on a scrutiny of his reactions to military life and his relationship with his fellow recruits throughout these weeks and are of great value. By these measures, conjecture and supposition are supplemented by a controlled trial and error type of military setting which is similar to that which he will encounter for the remainder of his naval career. Even here there are possibilities for error. Although the training situation is an abrupt change from his civilian life, nevertheless it is a rather protected environment and does not at all resemble conditions in a combat area or those encountered on small combatant ships.

Psychiatric examinations are based primarily on clinical impressions and whatever history is available, and there is a time limit in which they can be efficiently perfected. It readily follows that if only three minutes is allowed for the examination there is a limit to the value of even the best possible three minute psychiatric examination. To provide a more efficient instrument it becomes necessary to increase the examination time. It may be tacitly assumed that psychiatric examinations, as they are conducted in the induction centers

and the training centers, are of equal caliber. Therefore, that a percentage of the men who will ultimately be demonstrated to be psychiatrically unfit for military service are "missed" by both the induction center and the training station examinations does not reflect discredit on the examining physicians or their methods. It merely means that they are unable to predict, from any single or battery of examinations and tests available at the present time, the men who will at a later date become groups 3 and 4 casualties.

Of a sample study of recruits examined at naval training stations the first four diagnoses in the order of their frequency of occurrence were (1) constitutional psychopathic states, (2) psychoneuroses (all types), (3) mental deficiency, (4) epilepsy. From this it is logical to infer that these cases were not originally eliminated at the induction centers because of time limitations and the impossibility of observation in the actual military situation.

In a consideration of the constitutional psychopathic states the characteristic abnormality is one of performance. Repeated maladjustment in numerous situations is the essence of the disturbance. The implications of this diagnosis are different from those usually appreciated by civilian psychiatrists. By and large the bulk of these men, while they demonstrate inadequacy for military service, have been able to conform satisfactorily in less demanding civilian situations. Disruption of accustomed life patterns, separation from home and family, economic inconveniences, military discipline and limited personal freedom, coupled with the very real threat of danger, constitute a series of handicaps which these persons are not able to accept and overcome. However, in the final analysis the hazard these elements constitute in any given case can be estimated only by the fact of performance. This is a function of time and the stress situation. A prebreakdown recognition that these persons are potential casualties is possible only in the light of a detailed historical review and complete psychiatric examination. Obviously the time allowed for this at induction centers is not sufficient for the purpose. Here an additional benefit accrues to the observation period of six weeks in a training station, which not only permits a more complete examination but also allows for the desired documentation from reliable sources in all cases in which a psychopathic background is suspected. The social service inquiry is a major function of the training station screening program.

In the training station examinations there also seems to be an incidence of psychoneurosis which presumably has been "missed" by the psychiatrists at the induction center; however, it is doubtful that these cases were actually "missed." It is more reasonable to assume that they could not have been detected by the type of examination conducted at the induction centers. It is an accepted medical fact that the diagnosis of psychoneurosis requires a great deal of time in order to examine thoroughly and elicit requisite information on which to establish it as an authenticated diagnosis. Here again time and observation seem to be the important elements.

In the instance of mental deficiencies, it should be remembered that all training stations utilize the services of psychologists, whose function it is to test accurately the suspected recruit's intelligence, performance and capabilities by standard psychometric procedures. The training station psychologist has an advantage over the psychologist working in induction centers in that he can confirm his test results by permitting the applicant to demonstrate his aptitude by trial duty in the recruit company.

In the case of epilepsy a similar situation prevails. In order to establish an authentic diagnosis of epilepsy it is important, if at all possible, to observe the characteristic overt signs. The training station program of observation permits this. Further, hospitalization with the use of electroencephalography in diagnosis clarifies the uncertainty in the doubtful instances of fainting, repeated dizzy spells, momentary "blackout periods" and so on.

Further, it is apparent that this failure to detect all individuals in the foregoing groups is not attributable to the necessarily hasty examination on the part of the physicians at the induction centers, for statistics clearly show that they efficiently detect the more readily diagnosed neuropsychiatric disabilities, such as frank psychoses and psychoneuroses and neurologic disorders.

These conclusions are borne out in an analysis of the diagnoses and frequency of occurrence in group 3. From a review of the reports of boards of medical survey over a period of several months it is learned that there is a significant difference in the frequency of all diagnoses encountered, as follows:

1. Psychoneuroses (all types).
2. Constitutional psychopathic states.
3. Miscellaneous disabilities (epilepsy, mental deficiency and so on).

These diagnoses constitute a different order in the frequency of disabilities, as seen in group 2, and may be thus differentiated (even if only by degree) from the other groups.

From the foregoing it is apparent that no single psychiatric examining body can hope to perfect its screening methods to a point where it can detect all the potential psychiatric disabilities. Yet, each separate activity—the induction centers, the training stations and the various boards of medical survey at naval hospitals—serves a unique prophylactic function by an examination of service personnel at different stages in their military career, whether it be submarine, aviation or amphibious operations. No one of these activities can be expected to assume effectively the function of the other, and there can be no substitute for the most important elements in any psychiatric examination—time and observation in the actual situation.

The Origin of Hindu Medicine.—The ancient documents of the Hindus, known as the Vedas or the books of revealed wisdom, were composed about fifteen hundred years before the Christian era. These contain scattered references to physicians and to the healing power of certain herbs and waters. But the art of healing is mainly an attribute of the gods. Strange notions are entertained about the nature of diseases, lapse of centuries and the gradual inroads made by foreign influences, the divine concepts and revelations yielded to a saner and more mundane view. Beginning approximately with the dawn of the eighth pre-Christian century, the practice of medicine fell to the lot of the Brahmin priests and scholars; this art they guarded zealously, transmitting their stereotyped knowledge to successive generations. The first evidence of change and improvement appears in the documents of the Susruta (ca. 500 B. C.) and the Vagbhata (ca. 700 B. C.). These compilations show decided advances, although based on contributions of their earliest predecessors. They still present a tinge of the supernatural as a potent force in the cause of disease and note the value of prayer and contrition in the treatment thereof.—Ricci, James C.: The Genealogy of Gynaecology, Philadelphia, Blakiston Company, 1943.

Clinical Notes, Suggestions and New Instruments

SELF-INFLICTED EXCISION OF LARYNX AND THYROID AND DIVISION OF TRACHEA AND ESOPHAGUS WITH RECOVERY

LIEUTENANT COLONEL WILLARD W. SCHUESSLER
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WASHINGTON, D. C.

A patient was admitted to an army hospital on March 4, 1942 with a history of a self-inflicted wound to remove his "voice box." When admitted he had a transverse incision at the level of the hyoid bone from one sternomastoid muscle to the other, and he was cyanotic from hemorrhage and clots in his neck. In a paper bag, brought in by the ambulance attendant, was the specimen shown in figures 1 and 2. An incision was immediately made in the midline down to the junction of the trachea, which had been cut off. After the clots over the tracheal opening had been cleaned out the patient's cyanosis was relieved.

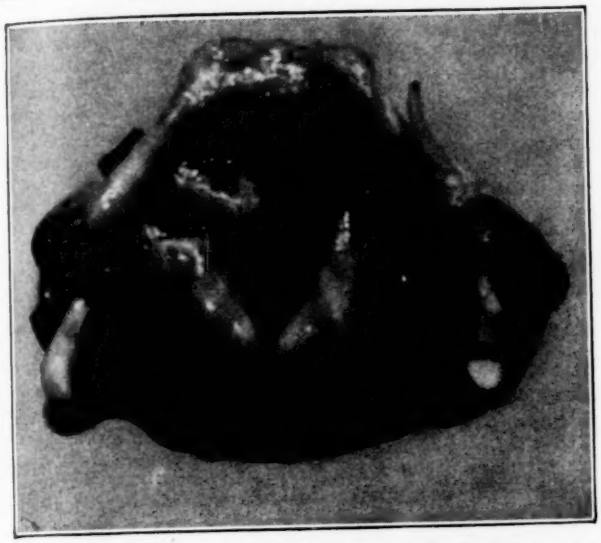

Fig. 1.—Superior portion of specimen, including hyoid bone with numerous cuts and larynx.

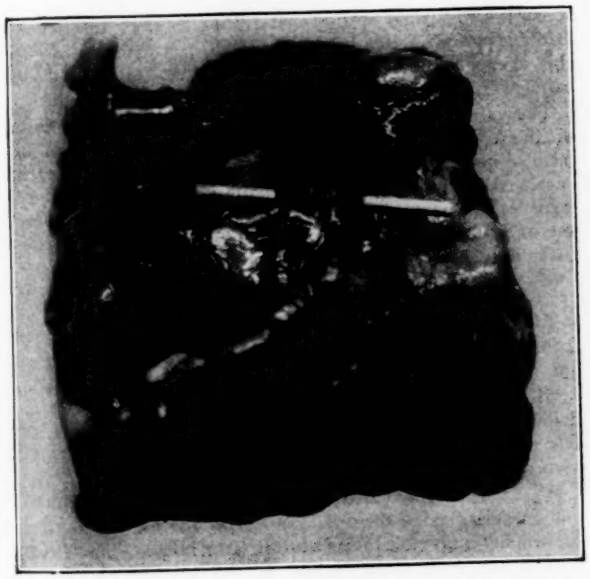

Fig. 2.—Posterior portion of specimens including larynx, portion of trachea and esophagus, with applicator stick through esophagus.

It was found that the patient had removed his hyoid bone, larynx, thyroid gland (including three parathyroids), trachea down to about the third ring, about 2 inches of the anterior part of the esophagus, and about ½ inch of the posterior part of the esophagus (fig. 2).

The edges of the skin made by the vertical incision were sutured to the remaining portions of the esophagus and trachea and the posterior portions of the esophagus sutured together. Three days later a gastrostomy was done, and a silk thread was run through the patient's nose, down the esophagus and out the gastrostomy opening. This was done to facilitate dilation if it should become necessary afterward.

A few days later a written statement was obtained from the patient stating that he cut his throat with a single edge razor

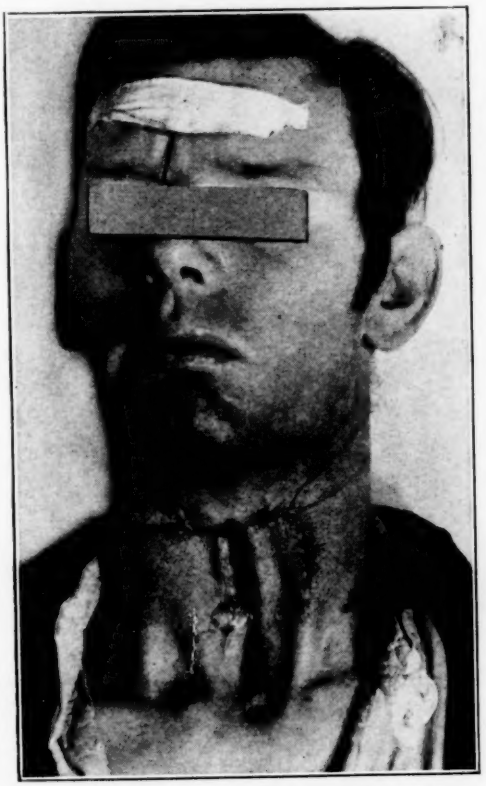

Fig. 3.—Position of flaps.

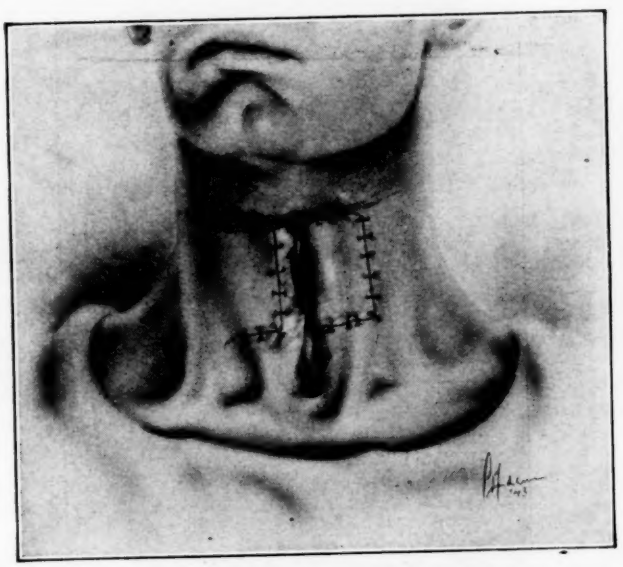

Fig. 4.—Position of flaps.

blade, placed his fingers in the trachea and pulled the specimen (shown in figs. 1 and 2) out of the incisions and cut it off.

Three weeks later the plastic repair of the esophagus was started. The contracture due to the suturing of the posterior wall of the esophagus together was relieved by a Z plastic. A flap 3 inches long by 2½ inches wide on the left side of the neck was outlined, elevated and sutured back into its original position. Then a flap on the right side 3 inches long by 4½ inches wide was elevated, leaving a border of normal skin ½ inch wide and 3 inches long next to the esophagus (figs 3 and 4).

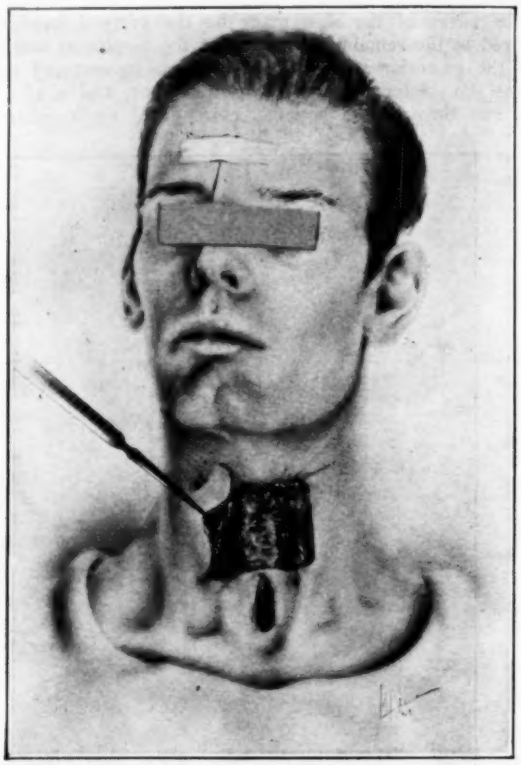

Fig. 5.—Flaps in position.

Fig. 6.—Repair of esophagus, ten days after operation.

In three weeks the flaps were elevated again, and the flap on the left side was turned on itself and sutured to the normal skin left adjoining the esophagus; the ends were sutured to the remaining portion of the esophagus. The flap on the right side was brought across the anterior wall of the esophagus formed by the flap from the left side and into the defect left by the flap from the left side (figs. 5 and 6).

The sutures were removed in seven days, and the wounds had completely healed. The patient was then given a liquid diet, and the gastrostomy was closed one week later. He was given a general diet and ate regular army rations until he was discharged from the hospital.

The possibility of growth of hair in the esophagus was discussed with the dermatologist and radiologist and it was felt that epilation by roentgen irradiation would reduce the vitality of the flaps; hence this treatment was felt not to be indicated.

After six months an esophagostomy was done, and no growth of hair was found.

When the patient was discharged, he was eating regularly and had gained 35 pounds (16 Kg.).

SULFADIAZINE IN THE TREATMENT OF 200 CASES OF ACUTE CATARRHAL NASOPHARYNGITIS

CAPTAIN FREDRIC B. FAUST AND CAPTAIN JACK M. SIMMONS
MEDICAL CORPS, ARMY OF THE UNITED STATES

Nasopharyngitis, acute, catarrhal, is the diagnosis of the common cold as officially given by the Medical Corps of the Army of the United States.[1] It is an important condition in the army for the reason of loss of time from duty, time spent in quarters and/or hospital, the contagiousness, the expected incidence in certain areas and the sequelae of complications. One of us (F. B. F.) during a tour of duty as medical officer in charge of sick-call noted the high incidence of 7 per cent of nasopharyngitis in a company of soldiers quartered in the same barracks and area. It was felt that all these men should be hospitalized as a prophylactic measure to reduce to a minimum the exposure of the well troops to the causative agent.[2] After a period of two weeks the incidence of the disease among this company was reduced to 0 per cent. This shows the contagiousness and a manner of preventing the disease.

The value of routine use of the sulfonamides in the treatment of the common cold has been greatly speculated on by the medical profession. Cecil, Plummer and Smillie[3] have briefly reviewed the literature in their study of the sulfadiazine treatment of the common cold. They are opposed to the routine use of sulfonamides but would favor their use in a few selected cases as a protection against severe infection.

METHOD

Two hundred cases of acute catarrhal nasopharyngitis ranging from mild to pronounced severity were treated at this station and are used in this analysis.

All patients were treated empirically by use of saline gargles hourly, mild protein silver and/or ephedrine nose drops, cathartics and/or enemas, and when necessary the use of salicylates as needed.

A series of the patients, not picked, but as routine, were put on sulfadiazine therapy, similar to that used in pneumonia,[4] 4 Gm. initially and 1 Gm. every four hours. The least total dosage was 4 Gm., the highest 40 Gm. and the average dosage 15 Gm. The series reached a total of 113 cases. Another

1. Records of Morbidity and Mortality, Sec. VII, Standard Terms for Diagnosis, Army Regulations 40-1025, par. 65, Oct. 12, 1940.
2. Cecil, R. L.: Textbook for Medicine, ed. 5, Philadelphia, W. B. Saunders Company, 1942, p. 5.
3. Cecil, Russell L.; Plummer, Norman, and Smillie, W. G.: Sulfadiazine in the Treatment of the Common Cold, J. A. M. A. **124**: 8 (Jan. 1) 1944.
4. Rusk, H. A., and van Ravenswaay, A. C.: Sulfadiazine in Respiratory Tract Infections: Its Value in Treatment During Winter of 1942-1943 at Jefferson Barracks, Missouri, J. A. M. A. **122**: 495 (June 19) 1943.

series, as controls, were treated with caffeine, acetophenetidin and acetylsalicylic acid compound capsules and/or acetylsalicylic acid. This series reached a total of 87 cases.

ANALYSIS

The total hospital days in the series treated with sulfadiazine was 648 days. The total hospital days in the control series was 492 days. The average number of days was 5.6 for both series.

The morbidity was studied by ascertaining the highest temperature in each case, thus classifying each. The number of days the temperature was above normal was then noted. The number of days of morbidity in the sulfadiazine treated cases was 179, in the control series 93 days. The temperature range of sulfadiazine treated cases was 99 to 106 F., in the control series 99 to 103 F. This study of morbidity shows that the majority of cases with higher temperatures and greater morbidity were treated with sulfadiazine.

A typical report of a smear of the throat in 21 cases studied bacteriologically was many polymorphonuclear leukocytes, a few to frequent red blood cells, with various types of organisms, singly or mixed. It is of interest to note that patients with chains of cocci receiving sulfadiazine had a shorter hospitalization even in this meager study. Those cases with staphylococci predominating did not respond readily to the use of sulfadiazine. The patients with diplococci receiving sulfadiazine improved at a better rate than those not receiving the drug. The patients with mixed infection with diplococci and chains of cocci had a longer recovery time than those with a more simple throat smear.

In the series were 14 Alaskan Aleut Indians from the Pribilof Islands, with a total of 84 hospital days, an average of 6 days per case; 103 patients were Negroes, 58 without sulfadiazine with an average of 6.1 hospital days, and 45 with sulfadiazine with an average of 5.4 hospital days; 75 patients were white, 24 without sulfadiazine with an average of 5.1 hospital days, and 51 with sulfadiazine with an average of 5.6 days.

Complications were bronchitis, tonsillitis, laryngitis and myringitis and sacroiliac pain. The average hospital days of sulfadiazine treated cases with complications were 6.2 days. The average hospital days of the control cases with complications were 9.9 days. This shows the effectiveness in reduction of the period of hospitalization with sulfadiazine therapy in controlling the complications of nasopharyngitis.

There was only 1 patient who developed a rash or showed signs of sulfonamide intoxication after ingestion of 8 Gm. of sulfadiazine. This promptly disappeared after cessation of the drug. Tonsillitis was a complication and it took 16 days before the patient was deemed well enough to be discharged.

SUMMARY

1. Prophylaxis against nasopharyngitis can be accomplished by isolation of actual cases in an Army post.

2. Two hundred consecutive cases were studied: in 113 sulfadiazine therapy was employed similar to that used in pneumonia; 87 cases were used as controls. The average number of hospital days for both series was exactly the same: 5.6 days.

3. Morbidity study shows that sulfadiazine will shorten the hospital stay of the more seriously ill patient.

4. Sulfadiazine treated patients with simple bacteriologic throat smears of cocci or diplococci recovered more rapidly than those showing mixed infections or staphylococci.

5. There was no pronounced difference between the racial groups represented.

6. Patients developing complications recovered more rapidly with the use of sulfadiazine.

7. Only 1 case of untoward reaction was encountered in this study.

CONCLUSIONS

1. Sulfadiazine in the treatment of nasopharyngitis, judiciously used, is an aid in reducing the number of hospital days in patients with greater morbidity.

2. Sulfadiazine is of definite value in treating and preventing the complications of nasopharyngitis.

Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT. HOWARD A. CARTER, Secretary.

AN APPRECIATION

The Council on Physical Therapy desires to take this opportunity to express its feelings of gratitude and appreciation for the services of the following consultants, whose assistance in carrying out the work of the Council has been given so freely during the past year:

Drs. Charles Bahn, Walter M. Boothby, Milton B. Cohen, William J. Egan, Hart Fisher, K. G. Hansson, John S. Hibben, Alexander Hollaender, K. K. Jones, Arno B. Luckhardt, S. L. Osborne, Winifred Overholser, Bernard D. Ross, Lauriston Taylor, Ralph Waters and W. F. Wells.

Audiometers and Hearing Aids: Drs. George M. Coates, E. P. Fowler, W. E. Grove, Dean Lierle, Isaac Jones, Walter Hughson, Douglas Macfarlan, C. Stewart Nash, Horace Newhart, Paul Sabine and B. R. Shurly.

Educational Work: Drs. Frances Baker, Robert L. Bennett, Benjamin Boynton, Mauriel Case Downer, Earl C. Elkins, F. H. Everhardt, Richard Kovacs, Fred B. Moor, W. H. Northway, William Schmidt, Arthur L. Watkins and Walter J. Zeiter.

Ophthalmic Devices: Drs. Charles A. Bahn, S. Judd Beach, Conrad Berens, Alfred Cowan, Frederick Carl Cordes, Walter B. Lancaster, William H. Leudde, Sanford Gifford (deceased) and Avery C. Prangen.

Artificial Limbs: Drs. S. Perry Rogers, Harry E. Mock, Paul Steele and Phillip Wilson; Messrs. McCarthy Hanger Sr., W. E. Isle, J. B. Korrady, Joseph Spievak and David E. Stolpe.

Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

AUSTIN E. SMITH, M.D., Secretary.

BISMUTH ETHYLCAMPHORATE (See New and Nonofficial Remedies, 1944, p. 233).

The following additional dosage form has been accepted:

THE UPJOHN COMPANY, KALAMAZOO, MICH.

Ampuls Bismuth Ethylcamphorate (in oil): 2 cc. Each cubic centimeter contains a suspension of bismuth ethylcamphorate equivalent to 0.04 Gm. of elemental bismuth, camphor 0.10 Gm. and benzyl alcohol 0.025 Gm. dissolved in vegetable oil.

SODIUM SULFAMERAZINE (See THE JOURNAL, May 6, 1944, p. 31).

The following additional dosage forms have been accepted:

SHARP & DOHME, INC., PHILADELPHIA

Ampuls Sterile Solution Sodium Sulfamerazine 6%: 50 cc. Each 50 cc. contains sodium sulfamerazine 3 Gm. in distilled water.

Ampuls Sterile Solution Sodium Sulfamerazine 20%: 15 cc. Each 15 cc. contains sodium sulfamerazine 3 Gm. in distilled water.

CITRATED NORMAL HUMAN PLASMA (See New and Nonofficial Remedies, 1944, p. 533).

The following additional dosage form has been accepted:

SHARP & DOHME, INC., PHILADELPHIA

Vacule Ampul-Vial Lyovac Normal Human Plasma: 500 cc. Containing a sufficient amount (preserved with phenylmercuric borate 1:25,000) to yield 500 cc. of restored plasma, packaged with a 500 cc. bottle of distilled water as a diluent (containing 0.1 per cent citric acid and equipment for intravenous injection).

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SATURDAY, JUNE 24, 1944

THE 1944 SESSION

The wartime session of the American Medical Association, held last week in Chicago, was a remarkable demonstration of the importance of such medical assemblages in the war effort. Unquestionably the morale of the medical profession was improved. New knowledge of medical advancement in the war period was brought to the attention of thousands of physicians who otherwise would have been delayed in bringing themselves up to date. Interest in research was greatly stimulated and the unity of medicine's approach to its social and economic problems was intensified. The attendance, in view of difficulties of transportation and hotel accommodations, was extraordinary, reaching a total of 7,284. Almost complete satisfaction with the arrangements and the features of this session was expressed by the physicians, the distinguished guests, the exhibitors and all others who participated.

The House of Delegates devoted its sessions to consideration of problems of great significance for the future of medical practice. The reports of the House of Delegates, which will appear in this and succeeding issues of The Journal, deserve the attention of every physician who is interested in the place of medicine in our economy. Once again the House of Delegates established its leadership by setting forth policies for the American physician which will insure the maintenance of a high quality of medical service, a high standard of medical education and a wider distribution of good medicine to more people. By prompt action relative to medical education, the importance of continuity of teaching and of maintaining an adequate supply of premedical students was emphasized to the nation. Messages were sent directly to all interested government officials and to the Committees on Military Affairs of the House and the Senate.

Many of the resolutions of the House of Delegates were concerned with the functions of the Council on Medical Service. These were much more clearly defined, particularly in relationship to the office of this council in Washington. By the elections the House of Delegates indicated its satisfaction with the progress thus far made by this council. A number of resolutions were introduced from the state of California. These would have greatly modified the policies of the American Medical Association; they related to its management, to its representation in Washington and to its contacts with the medical profession and the public. These resolutions were considered unacceptable by the House of Delegates and were refused by an overwhelming majority.

By its election of Dr. Louis H. Bauer, formerly chairman of the Council on Medical Service, as a trustee, by its unanimous election of Dr. Roger I. Lee, chairman of the Board of Trustees, as President-Elect, and by its reelection of other officers the House of Delegates expressed its satisfaction with the conduct of the affairs of the Association. The medical profession of the nation may well accept this recognition and give to the House of Delegates, the Board of Trustees, the members of the various councils, bureaus and others who serve them the support that is so necessary in making the work of the American Medical Association effective.

The scientific sections throughout the week were attended by capacity audiences. For several of the symposiums and panel discussions the attendance more than taxed the capacity of the halls available. This was particularly true for the symposiums dealing with the uses of penicillin, the sulfonamides, rheumatic fever, vitamins and war medicine.

The Scientific Exhibit functioned throughout the session as a continuous graduate school of medicine. The practical character of the lectures, demonstrations and conferences was enthusiastically commended by those in attendance.

A special feature of this session was the military medical meeting, at which the Surgeons General Vice Admiral Ross T. McIntire and Major General Norman T. Kirk delivered inspiring and informative addresses. Also present for addresses were representatives of our Allies, including Lieut. Gen. Robert K. S. Lim of the Chinese army medical administration and Major Gen. Brock Chisholm of the Royal Canadian Army Medical Corps. Unfortunately the distinguished representative of Russia, Dr. Vladimir V. Lebedenko of the Russian Red Cross, was unable to be present but sent a telegram of greetings.

The facilities available in Chicago were such as to compel the holding of the Technical Exhibits on several floors of one hotel, the Scientific Exhibit and the House of Delegates in another and the scientific sections in still several other halls and hotels. Fortunately transportation was excellent and the dissemination of these various features did not seem to interfere even slightly with the success of the meeting.

Again the American Medical Association has met the challenge by providing the physicians of America with a great forum where they can assemble to speak as a democratic body for the American physician and to strive for those objectives of the Association emphasized by its Constitution: "to promote the science and art of medicine and the betterment of public health."

DR. ROGER I. LEE—PRESIDENT-ELECT

Summoned by a unanimous vote of the House of Delegates to accept the office of President-Elect, Dr. Roger Irving Lee of Boston was unanimously elected to be President of the American Medical Association for the period 1945-1946. To those intimately associated with the affairs of the American Medical Association, this is the culmination of many years of service given by Dr. Lee. Dr. Lee was chairman of the Section on Pharmacology and Therapeutics in 1927 and 1928. He was a delegate in 1911, 1926, 1928 and from 1930 to 1934. In 1934 he was elected a member of the Board of Trustees and reelected to that office in 1939. He became chairman of the Board of Trustees in 1942 and was reelected to that office in 1943. Since 1941 he has been a representative of the American Medical Association on the Division of Medical Sciences of the National Research Council. Long before his official association as a leader in the activities of the American Medical Association, coincidentally, Dr. Lee had begun his contribution to medicine in his state and in many other medical organizations.

ROGER IRVING LEE, M.D.

PRESIDENT-ELECT OF THE AMERICAN MEDICAL ASSOCIATION

Dr. Lee was born in Peabody, Mass., Aug. 12, 1881. He received the A.B. degree from Harvard in 1902 and the M.D. degree in 1905. He practiced medicine in Boston beginning in 1905 and became, as the years passed, visiting physician to the Massachusetts General Hospital from 1912 to 1923 and the Henry K. Oliver professor of hygiene at Harvard from 1914 to 1924. In 1924 he resumed private practice. He was consultant in internal medicine and was chosen an overseer of Harvard University for 1930-1931, and named a fellow of Harvard University in 1931. During the first world war he served as a major in the Medical Reserve Corps and was promoted to lieutenant colonel on June 6, 1918. He served in France with Base Hospital No. 5 and was consultant in medicine to the Third Corps of the American Expeditionary Force. As early as 1910 he was secretary of the Massachusetts Tuberculosis Commission. In 1921 he became a member of the Public Health Council of the State of Massachusetts and filled that position until 1934. He is a member of the Association of American Physicians, the American Association for the Advancement of Science, the American Society for Clinical Investigation, a regent and former president of the American College of Physicians, a member of the American Academy of Arts and Sciences and a former president of the Massachusetts Medical Society. In the course of his association with various authoritative bodies and commissions, he wrote a book on "Health and Disease" in 1917 and with Lewis W. Jones another book on "The Fundamentals of Good Medical Care," which was published as a part of the contribution of the Committee on the Costs of Medical Care. Dr. Lee is also a member of the American Clinical and Climatological Association and of the specialty board on internal medicine. He is a fellow of the Royal College of Physicians of London. In the city of Boston Dr. Lee has been associated with many civic activities, among them the Committee on Public Health of the Boston Chamber of Commerce.

In all his work the contribution of Dr. Lee has been characterized by a keen insight, a great respect for honesty and integrity, complete fairness and an extraordinarily fine sense of humor. When he became president of the American College of Physicians he stated as his platform "reasonable but not excessive specialism in medicine and an adequate appreciation of the efforts of the general practitioner." This should commend him particularly to the members of the American Medical Association, which now embraces more than 125,000 physicians in its membership, the majority of whom are general practitioners. His experience as a leader in education, in public health and in the practice of medicine indicates that the American Medical Association will have wise guidance and counsel during the years in which he will fill the positions of President-Elect and President.

THE INDIVIDUAL STREPTOCOCCUS CARRIER

Streptococcic infections have long been known to be communicable. During the acute stages of some types of streptococcic diseases attempts are made to limit transmission to other persons by isolation of the patients, as in scarlet fever. After recovery from streptococcic diseases some persons remain carriers for a long time, but comparatively few transmit infection to others.

The reason for this difference in behavior is not known. There are no known cultural, morphologic, serologic or chemical differences between the streptococci of carriers who give rise to return cases and those who do not. There has been no method of determining which carriers are dangerous and need further treatment or isolation and which are relatively harmless to others.

Coburn [1] has recently described two outbreaks set up by individual carriers and discussed the nature of infectivity or communicability. In a group of about 200 patients with throat infections due to hemolytic streptococcus group A, type 19, some of whom had an erythematous skin rash while others did not, were two men who proved to be dangerous carriers after discharge from the hospital, both giving rise to additional cases. One had an acute pharyngitis followed by mastoiditis, sinusitis and bronchitis. He gave rise to 4 cases of scarlet fever or acute pharyngitis during readmission to the hospital for mastoidectomy. The other had a sinusitis and a focal pneumonitis following an attack of scarlet fever. Later, while he was in an orthopedic ward containing 40 bed patients, for observation following a minor head injury, he gave rise to 16 cases of streptococcic infection.

In neither carrier was the number of streptococci in throat cultures large, and in neither of them was the organism highly invasive. In both, however, the communicability was high and outbreaks occurred. Coburn believes that a high degree of communicability, and thus the dangerous carrier state, may be acquired by the streptococcus during secondary streptococcic infections and during an outbreak of virus infections of the respiratory tract. The former condition existed in these patients, each having had a subacute secondary respiratory tract infection. Communicability ceased when the infectious process subsided. This was hastened by the use of sulfonamides.

Coburn suggests that communicability is acquired by an adaptive change in the bacteria to the changing immune state in the host under conditions of an infection in which neither host nor micro-organism can establish supremacy promptly. Because of the change the bacteria become able to multiply in the presence of inhibitory substances of the normal mucous membranes—they are "host fast." This property may be quickly lost, but while it exists the bacteria have a high degree of communicability. Fundamentally it may depend, Coburn speculates, on the development of adaptive enzyme systems.

Besides suggesting how the dangerous carrier state may be recognized, this paper makes specific recommendations regarding its management. It also suggests a course which future investigations might take in attempts to understand the individual carrier.

1. Coburn, A. F.: The Carrier Problem in the Dissemination of Hemolytic Streptococci, U. S. Nav. M. Bull. **42**: 325 (Feb.) 1944.

PATHOGENESIS OF MÉNIÈRE'S DISEASE

Ménière's disease is characterized by a combination of vestibular and auditory disorders. Vertigo is the chief and the disabling symptom, but deafness and tinnitus are so common that they must be regarded as part of the clinical picture. Ménière in 1861 suggested that these symptoms were due to a disorder of the inner ear and that the underlying lesion was an intralabyrinthine hemorrhage. Charcot, a contemporary of Ménière, observed that in some patients the attacks of vertigo ceased when deafness became complete. He suggested that the cure could be hastened by an intracranial section of the auditory nerve. The operation was not successfully performed until 1928, when Dandy [1] reported a number of successful sections of the eighth nerve. "We know," he states, "that the acoustic division of the auditory nerve is affected because of the loss of hearing and that the vestibular branch is affected because of the diminished caloric response." Dandy believes that the lesion is in the auditory nerve and that the logical operation for the condition is the intracranial section of the eighth nerve. He has now operated, according to Crowe,[2] in some 200 cases without a fatality and with uniformly good results. Crowe reports a series of 45 cases in which the vestibular branch alone of the auditory nerve was sectioned. Much to his surprise, actual improvment in hearing on the side on which operation was done followed in 22 per cent of the cases. Crowe believes that division of the vestibular nerve in which all vestibular fibers are divided and all cochlear fibers are spared is the ideal operation, since it cures the vertigo and preserves what hearing the patient had prior to operation.

The pathogenesis of the disease has remained obscure, principally because of the lack of necropsies on cases of Ménière's disease. In 1938 appeared the first careful studies of temporal bones reported by Hallpike and Cairns.[3] Recent publications of Wright [4] and of Crowe [2] suggest that the clinical manifestations of

1. Dandy, Walter E.: Ménière's Disease: Diagnosis and Treatment; Report of 30 Cases, Am. J. Surg. **20**: 693 (June) 1933.
2. Crowe, S. J.: Ménière's Disease: A Study Based on Examinations Made Before and After an Intracranial Division of the Vestibular Nerve, Medicine **17**: 1 (Feb.) 1938.
3. Hallpike, C. S., and Cairns, H.: Observations on the Pathology of Ménière's Syndrome, J. Laryng. & Otol. **53**: 625 (Oct.) 1938.
4. Wright, A. J.: Aural Vertigo: A Clinical Study, J. Laryng. & Otol. **53**: 97 (Feb.) 1938.

Ménière's syndrome are caused by well known disorders of the inner ear. Wright believes that the condition is due to bacterial intoxication of the labyrinth and describes it as a focal labyrinthitis. Crowe is less specific in his view of the type of pathogenic agent but ascribes the condition to a disorder of the normal state of pressure and chemical constitution of the endolymph. These views find their support in the morphologic studies of Hallpike and Cairns. They examined temporal bones of 2 patients who died following the operation for the section of the auditory nerve. Microscopic studies of serial sections of the temporal bones in both cases revealed a gross dilatation of the endolymph system which affected chiefly the scala media of the cochlea and the saccule. Degenerative changes were present in Corti's organ and in the stria vascularis. On this morphologic evidence the authors advance the view that the primary mechanism of the disease is an obstructive distention of the endolymph system. They speculate that the general dilatation of the endolymph system in these cases was due to hypersecretion, which had led to the obliteration by pressure of the soft perisaccular tissue. This seems to be unlikely, however, because absence of the perisaccular tissue is to be seen in the unaffected ear in the first case. The suggestion is therefore made that the endolymphatic dilatation in these cases is due to some failure in the normal absorptive mechanism and that morphologic evidence of this failure is provided by the absence from these cases of the normal absorption area of perisaccular connective tissue. The primary change may still be either an increased production of the endolymph itself or else some type of alteration in its physicochemical constitution, as suggested by Crowe.

GEORGE DOCK, M.D.
AWARDED DISTINGUISHED SERVICE MEDAL

Lindsay [5] has reported 3 cases in which labyrinthine dropsy appeared to be the anatomicopathologic basis for the symptoms, but he stresses that the mechanism of the hydrops has not been explained. Further microscopic observations, as well as chemical investigations of the endolymph and of the factors which may produce an increase or a decrease in its volume, will be necessary to throw more light on Ménière's disease.

5. Lindsay, J. R.: Ménière's Disease, Minnesota Med. **25**: 778 (Oct.) 1942; Arch. Otolaryng. **39**: 313 (April) 1944.

Current Comment

GEORGE DOCK PRESENTED DISTINGUISHED SERVICE AWARD

The Distinguished Service Medal and Award of the American Medical Association for 1944 were conferred on Dr. George Dock, of Pasadena, Calif., famous physician and medical educator. Dr. Dock was born at Hopewell, Pa., April 1, 1860. He received the M.D. degree from the University of Pennsylvania in 1884, an honorary A.M. from Harvard in 1895, the Sc.D. from the University of Pennsylvania in 1904 and the LL.D. from the University of Southern California in 1936. From 1887 to 1888 Dr. Dock was assistant clinical professor of pathology at the University of Pennsylvania, becoming professor of pathology at the Texas Medical College and Hospital in 1888. He left Texas in 1891 and became professor of the theory and practice of medicine and clinical medicine at the University of Michigan, where he remained until 1908. From the latter year until 1910 he held the same title at Tulane University Medical School. He was professor of medicine at Washington University School of Medicine, 1910 to 1922, and dean part of that time. He is honorary professor of medicine at the University of Southern California and a member of numerous medical societies, including the American Medical Association, American Association for the Advancement of Science and Association of American Physicians, of which he was president in 1916-17. He is co-author of a book on hookworm disease and of articles and chapters in many textbooks on medicine. A happy conjunction of events led to the celebration of Dr. Dock's eightieth birthday at a dinner at the Los Angeles County Medical Society in April 1940, on which occasion the organization of the Walter Jarvis Barlow Society of the History of Medicine simultaneously held its first public meeting and the birth of the George Dock Lectureship in the History of Medicine also took place, Dr. Dock being the first lecturer. The award to Dr. Dock of this honor adds a new name to the distinguished list of those who have already been recognized in this manner, including Dr. Rudolph Matas in 1938, Dr. James B. Herrick in 1939, Dr. Chevalier Jackson in 1940, Dr. James Ewing in 1941, Dr. Ludvig Hektoen in 1942 and Dr. Elliott P. Joslin in 1943.

MEDICINE AND THE WAR

POSTWAR PLANNING

RESULTS OF PILOT QUESTIONNAIRE TO PHYSICIANS IN SERVICE

[NOTE.—*This report was prepared by Lieut. Col. Harold C. Lueth, liaison officer with the American Medical Association, for presentation to the Committee on Postwar Medical Service and the Council on Medical Education and Hospitals.*—ED.]

A questionnaire was prepared and mailed to certain medical officers by the Committee on Postwar Medical Service in an attempt to determine the probable needs of medical officers during the postwar period. The questionnaire consisted of five main sections: General Information, Education, Industrial, Licensure and Economic. Provision was made for additional information or remarks by the medical officers. Signature of the medical officer was optional.

The questionnaires were mailed to a selected group of 3,000 medical officers on duty with the armed forces. An alphabetical machine record list of all medical officers on duty with the Army, Navy, Public Health Service and Veterans Administration as of Sept. 30, 1943 was used. Every fifteenth name was marked and a questionnaire mailed to the medical officer.

A return self-addressed envelop was enclosed with the questionnaire to facilitate early reply and return.

An arbitrary selection from an alphabetical list was considered to be a fair method of random sampling and was believed to yield an excellent indication of the entire group. In that manner, it was felt, there would be an even distribution of questionnaires among the Army, Navy, Public Health Service and Veterans Administration. Also the questionnaires would be proportionately distributed among the age groups as well as between those in various foreign and home assignments.

The mailings were begun in February 1944 and continued until the end of March. There were 927 questionnaires, or 31 per cent, returned by the first of June, which represents an excellent return when the wide dispersal of the armed forces and the constant movement of troops are considered. Early returns were largely from medical officers in the continental United States. The report may be considered in two groups. The first group consisted of the first 500 questionnaires received prior to April 20, mainly from medical officers in or near the United States. The second group consisted of 427 questionnaires received from April 21 to June 1, mainly from medical officers stationed at more distant posts.

All returned questionnaires were checked in against the mailing list. The postmark on the envelop was entered at the top of the questionnaire. Many officers preferred to sign their questionnaires, and their names were entered on the upper right hand corner of the returned questionnaire along with the postmark.

Questionnaires were divided into four groups for study on the basis of licensure or medical school graduation. In general, licensure was used since there was a section that dealt with licensure. However, recent medical graduates who entered the armed forces without a license to practice medicine were classified in the year they would normally have become licensed. Group 1 consisted of those licensed from 1937 to 1943. Group 2 consisted of those licensed during the years 1930 to 1936. Group 3 consisted of those licensed during the years 1920 to 1929, and Group 4, the oldest group, consisted of those licensed before 1920. There were the following number of returns in each group:

	Number	Per Cent
Group 1	400	43
Group 2	323	35
Group 3	168	18
Group 4	36	4
Total	927	100

Education

Greatest interest in postwar medical education was evident among the youngest officers, or in group 1. A number of men in this group have had their medical education curtailed by the war, so it is not surprising that 364, or more than 90 per cent, want some additional training. The requests for additional training include 15 who desire a three months course, 23 a three to six months course, 15 a six to twelve months course and 66 a year's course. A one to two year training period was requested by 104, and 96 wanted more than two years of training. Thus half of this entire group requests a year or more of postwar training. There were 45 who desired training of an undetermined period. Only 11 of the 400 in group 1, or 2.7 per cent, did not want additional training,

TABLE 1.—*Educational*

	Year of Licensure				
	Group 1, 1937 to 1943	Group 2, 1930 to 1936	Group 3, 1920 to 1929	Group 4, Before 1920	Total
Total number of replies counted	400	323	168	36	927
Total number desiring additional training *	364	238	112	19	733
3 months or less	15	34	17	3	69
3-6 months	23	36	38	5	102
6-12 months	15	43	10	..	68
1 year	66	50	16	2	134
1-2 years	104	30	7	..	141
More than 2 years	96	15	1	2	114
For undetermined period	45	30	23	7	105
Do not want additional training	11	31	17	6	65
Undecided	4	3	2	..	9
No answer	21	51	37	11	120
Will seek specialty board certification	301	169	76	7	553
Do not want specialty board	81	150	73	25	329
Have specialty board and want training					
3 months or less	1	16	5	..	22
More than 3 months	15	31	14	2	62
For undetermined period	4	6	4	1	15
Have specialty boards and desire no training	4	34	27	8	73
Have specialty board and undecided about additional training	..	1	1	..	2

* Of this total, the institutions were named by 229 in group 1, 138 in group 2, 67 in group 3, and 11 in group 4.

while 4 of the group were undecided in the matter of postwar educational training and 21 failed to answer the question.

There was a great demand for qualifying for specialty board certification in group 1. More than three-fourths of the entire group, or 301, indicated that they would seek specialty board certification, while 81 definitely did not desire such certification.

A group of 20 have already been certified by the specialty boards, and most of them signified that they desired training of three months or more after the war. Only 4 certified specialists in this group did not want additional training.

Group 2 consists of men who are about 35-42 years of age and who were in practice five to twelve years before they entered military service. There were 323 in the group, of whom 238, or 74 per cent, expressed a desire for further educational training. There were 34 who wanted a three months course, 36 a three to six months course and 43 a six to twelve months course of instruction. Fifty men wanted a one year training period, 30 a one to two year training period, and 15 wanted more than two years. There were 30 men who indicated an undetermined period of instruction. Thirty-one, or 9.6 per cent, did not want any additional training. Three were undecided, and 51 gave no answer.

There were 87, or 27 per cent, of the men in group 2 who are at present qualified specialists. About two thirds of the qualified specialists in group 2 indicated additional training, of whom a majority favor training of three months or more. One third of the specialists do not desire further training. Medical officers licensed from 1920 to 1929 comprised a group of 168 men. About three fourths of group 3, or 112, marked a preference for additional training, of whom 55 wanted six months or less training. Seventeen desired no additional training and two were undecided. No answer was given by 37 men.

One third of group 3, or 51 men, were qualified specialists, of whom more than half did not want further training. Of the noncertified specialists in group 3 about half stated that they would seek certification and the other half would not.

Industrial Medicine

Group 4 was the oldest and smallest group, consisting of 36 men. About one third of the group were qualified specialists, most of whom did not desire further training. A scattering of men indicated that they desired training for relatively short periods of time. Six men did not want additional training.

There was less interest in industrial medicine (table 2) than was anticipated. In group 1, 226 men out of 400, or 56 per cent, stated they did not wish a position in industrial medical practice, but 137 were interested in that field of practice, of whom 11 desired a full time position and 126 a part time position. Men interested in industrial work were divided as follows: Ninety-six desired work in industrial surgery; 36 desired insurance work; 28 desired work in plant medical departments; 15 desired work in occupational disease control, and 10 desired work in other fields. There were 154, or 38 per cent, who preferred training in university courses and only 19, or less than 5 per cent, who preferred training in industry.

Group 2 showed a response similar to that of group 1 with regard to industrial medicine. About one third, or 108 men out of 323, expressed interest in industrial practice, of whom only 19 wanted full time positions and 89 part time appointments.

TABLE 2.—*Industrial*

	Year of Licensure				
	Group 1, 1937 to 1943	Group 2, 1930 to 1936	Group 3, 1920 to 1929	Group 4, Before 1920	Total
Total number of replies counted...	400	323	168	36	927
Total number wishing position in industrial medical practice.....	137	108	45	6	296
Full time.....	11	19	17	2	49
Part time.....	126	89	28	4	247
Undecided.....	3	6	1	..	10
Not wishing position in industrial medical practice.....	226	187	112	23	548
No answer.....	34	22	10	7	73
Type of work desired					
Plant medical department.....	28	26	15	4	73
Insurance.....	36	37	18	4	95
Occupational disease control...	15	8	6	1	30
Industrial surgery.....	96	68	26	2	192
Other fields.....	10	11	10	2	33
Prefer training in industry.....	19	16	9	..	44
No.....	220	234	123	30	607
Will attend university course.....	154	102	59	8	323
No.....	86	148	73	22	329

Various phases of industrial practice were selected by the following number of men: 68 in industrial surgery, 37 in insurance, 26 in plant medical department work, 8 in occupational disease work and 11 in other fields. University training was selected by 102 men, whereas only 16 preferred training in industry.

Medical officers in group 3 showed a greater interest in full time positions than the preceding groups. There were 45, or 27 per cent, interested in industrial medicine, of whom 17 desired full time positions and 28 wanted part time appointments. Interests varied as follows: Twenty-six wanted industrial surgery; 18 wanted insurance positions; 15 wanted plant medical department work; 6 wanted occupational disease control, and 10 wanted other fields of practice. There were 59, or 35 per cent, who said that they would attend university training courses and 9, or 5 per cent, who would prefer training in industry.

The last group consisted of the oldest officers, and they showed little interest in industrial medical practice. Two men said that they would accept full time positions, and 4 men said they would accept part time positions.

Licensure and Practice

Licensure and practice formed the next section of the questionnaire, and the tabulation of the returned questionnaires (table 3) indicated that a large proportion of the medical officers had a great desire to return to practice in their former residence after the war.

TABLE 3.—*Licensure*

	Year of Licensure				
	Group 1, 1937 to 1943	Group 2, 1930 to 1936	Group 3, 1920 to 1929	Group 4, Before 1920	Total
Total number of replies counted...	400	323	168	36	927
Planning to reengage in practice in previous locality after the war...	164	237	136	31	568
No.....	90	53	18	3	164
Indefinite.....	16	20	10	1	47
Blank.....	130	13	4	1	148
What is your preference as to					
Rural.....	30	13	3	..	46
Urban.....	177	95	43	8	323
Size of community intend to practice in					
2,500-25,000.....	52	16	6	3	78
25,000-250,000.....	109	41	13	1	164
Over 250,000.....	43	15	9	2	69

The greatest dispersion of desires was noted in group 1. It showed 164, or 41 per cent, of the men planned to reengage in practice in their previous locality after the war. Ninety men indicated they would not return to their former locality; 16 were indefinite about their location, and 130 left the question blank. This is not surprising in view of the fact that a large number of men in group 1 went directly from hospital service into the armed forces.

More than one half of group 1, or 207, expressed a definite desire to go to a new locality after the war. There were 177 who wanted an urban community (over 2,500) and 30 who preferred a rural community. The size of communities varied as follows: Fifty-two wanted communities of 2,500 to 25,000; 109 wanted communities of 25,000 to 250,000, and 43 wanted communities of more than 250,000.

There were 237, or 73 per cent, of group 2, who wanted to return to the locality of their previous practice after the war, and 53, or 16 per cent, stated that they did not wish to return to their former residence; 20 were indefinite, and 13 failed to answer the question. New locations contemplated by men in group 2 were as follows: Sixteen wanted communities of 2,500 to 25,000; 41 wanted communities of 25,000 to 250,000, and 15 wanted communities of more than 250,000.

A still greater tendency of older officers to return to their former localities of practice was seen in groups 3 and 4. Eighty per cent of the men in group 3 and 85 per cent of the men in group 4 expressed a desire to reengage in practice in the community they left when they joined the armed forces. Those who desired to establish a practice in a new community selected urban rather than rural sites and preferred cities of 25,000 to 250,000.

Economic

Economic considerations were presented in the last section of the questionnaire and are shown in table 4.

A wide variety of answers were received from group 1. One hundred and forty-one, or 35 per cent, wanted general medical practice; 207, or 52 per cent, wanted full time specialty practice, and 52, or 13 per cent, desired part time specialty practice. There were 227, or 54 per cent, who would like to become associated in private practice with a group of physicians. Full time teaching or research was selected by only 2 men and part time teaching by 154. Practice on a full time salary basis was selected by 16, or 4 per cent, of group 1, and government medi-

cal service attracted only 20, or 5 per cent. The latter group was divided as follows: Army, 9; Navy, 3; U. S. P. H. S., 6; Veterans Administration, 1, and other services, 1.

Group 2 showed a greater desire to return to their former type of practice. There were 98, or 30 per cent, who selected general medical practice; 176, or 55 per cent, who selected full time specialty practice, and 49, or 15 per cent, who desired part time specialty practice. Again, there were a large number of men, 186, or 57 per cent of group 2, who indicated that they would like to become associated in private practice with a group of physicians. Three of the group would like to become full time teachers or research workers, and 28, or 9 per cent, mentioned a preference to practice on a full time salary basis. Governmental medical service attracted 33, or 10 per cent of group 2, who were distributed as follows: Army, 7; Navy, 2; U. S. P. H. S., 9; Veterans Administration, 10, and other services, 5. Two hundred and seventy-four men, or 85 per cent, expressed a desire not to remain in government service.

TABLE 4.—*Economic*

	Year of Licensure				
	Group 1, 1937 to 1943	Group 2, 1930 to 1936	Group 3, 1920 to 1929	Group 4, Before 1920	Total
Total number of replies counted	400	323	168	36	927
Desire general practice	141	98	46	16	301
Specialty					
Full time	207	176	106	13	502
Part time	52	49	16	7	124
Private practice with a group of physicians	227	186	72	8	493
Plan to engage in research or teaching					
Full time	2	3	5	..	10
Part time	154	121	37	11	323
Do not plan to engage in research or teaching	208	169	103	18	498
No answer	36	30	28	3	97
Prefer to practice on full time salary basis	16	28	22	1	67
Total desiring government service	20	33	29	11	93
Army	9	7	8	8	32
Navy	3	2	3	1	9
U. S. P. H. S.	6	9	5	1	21
Veterans Administration	1	10	12	1	24
Others	1	5	1	..	7
Do not desire government service	360	274	128	21	783
Undecided	12	12	8	..	32
Blank	8	4	3	4	19
Minimum monthly salary accepted					
Under $200.00	..	2	..	..	2
$200.00 to $500.00	119	91	38	6	254
Over $500.00	66	68	39	5	178
Not stated	210	155	90	25	480
Undecided	5	7	1	..	13
Willing to enter legislated area	89	59	13	1	162
No	238	213	136	28	615
Blank	73	51	19	7	150
Subsidy for several months	82	47	17	1	147
No	135	116	53	12	316
Blank	183	160	98	23	464
Diagnostic facilities	121	83	32	4	240
No	80	59	22	4	165
Blank	199	181	114	28	522
Hospital facilities	130	91	30	4	255
No	77	53	21	3	154
Blank	193	178	117	29	517

The replies from group 3 were similar to those from group 2. There were 46, or 27 per cent, who indicated general medical practice, 106, or 63 per cent, who desired full time specialty practice and 16, or 10 per cent, who expressed a wish to engage in part time specialty practice. Nearly one half, or 72 physicians, said that they would like to become associated in private practice with a group of physicians. There were 3 who planned to be full time research workers or teachers and 22, or 13 per cent, who preferred to practice on a full time salary basis. In this older age group medical service with the government attracted 29, or 17 per cent, as follows: Army, 8; Navy, 3; U. S. P. H. S., 5; Veterans Administration, 12, and other services, 1.

There was a strong tendency for the small number of physicians in group 4 to remain in government service. Eleven out of 36 wanted some type of government medical appointment. The Army was selected by 8, and the Navy, U. S. P. H. S. and Veterans Administration by 1 each.

ARMY

NEW HOSPITAL SHIPS GO INTO SERVICE

The War Department recently announced that ten new hospital ships are commissioned and in service, making a fleet of eighteen hospital ships with a total capacity of more than 10,000 patients. These will be used for the Army to evacuate the wounded American and Allied troops from France and from other combat zones. Under the direction of the Transportation Corps, Army Service Forces, the ten new hospital ships were converted from former army transports and cargo vessels by commercial shipyards. Six new hospital ships will be added to this fleet by the end of 1944. The average number of patients carried by each of the hospital ships is about 600. The twenty-four vessel mercy fleet, all operated under terms of the Hague Convention of 1907, will have a total patient capacity of more than 14,000, of which about 3,300 will be for ambulants, or "walking wounded." It is expected that some of the twenty-four hospital ships will be used in intratheater operation, in keeping with the War Department's plan for progressive evacuation of casualties.

The ten new ships and ports from which they sailed were the *John L. Clem* from New Orleans, the *Ernest Hinds* from San Francisco, the *Marigold* from Seattle, the *Larkspur* from Jacksonville, the *John J. Meany* from Boston and the *Dogwood*, the *Blanche F. Sigman*, the *Emily H. M. Weder* and the *Wisteria*, all from New York. The tenth ship is the *Mercy*, sailing from Los Angeles. This is a navy ship, manned by the Navy but operated for the Army.

The *Blanche F. Sigman* was named in memory of 1st Lieut. Blanche F. Sigman, Army Nurse Corps, who was killed in action on the Anzio beachhead Feb. 7, 1944. A native of Cambridge, Ohio, she joined the Army Nurse Corps in July 1942. The *Emily H. M. Weder* was named in memory of Major Emily H. M. Weder, a Regular Army Nurse since 1918, who died last February at Walter Reed General Hospital, Washington, D. C. Her home was in Sellersville, Pa.

The Army's present fleet of hospital ships includes the *Acadia*, the *Algonquin*, the *Chateau Thierry*, the *St. Mihiel*, the *Seminole*, the *Shamrock* and the *Thistle*. In addition the Navy owned and crewed *Comfort*, commissioned at Los Angeles in May, is operated for the Army. The six new hospital ships to be added by the end of 1944 are the *St. Olaf*, the *Jarrett M. Huddleston*, the *Charles A. Stafford*, the *Lewis Luckenbach*, the *Dorothy Luckenbach* and the *Hope*. The *Hope*, like the *Comfort* and the *Mercy*, will be operated by the Navy for the Army.

The Medical Department staffs the vessels, including the three navy operated ships, with army medical personnel, including surgeons and officers of the Army Nurse Corps.

In keeping with international treaties, the hospital ship at sea is instantly recognizable as a mercy ship. Its hull is painted white, a horizontal green band is painted the whole length of the ship on each side, a huge Red Cross is painted in the middle of the starboard and port sides, a Red Cross is painted on deck and others are painted on each side of the funnel. The entire vessel is equipped to provide electrical illumination, including lighted red crosses, from sunset to sunrise. It is unarmed and carries only the necessary crew and medical personnel, in addition to patients.

Operation of hospital ships by the Transportation Corps is directed in accordance with international practice under applicable treaties (particularly the Hague Convention of 1907) and supplemented by such regulations covering operation of United States army transports as are not in conflict with such treaties.

The civilian crew aboard a hospital ship is employed under civil service status by the Transportation Corps. The master is in supreme command of the ship and all persons on board who sign the ship's articles. He is responsible for and has full control of operation, navigation and the safety of the ship as required by navigation laws and rules of the United States; safe delivery of passengers and cargo at destination, and discipline and efficiency of the crew.

The senior medical officer aboard a hospital ship is the ranking surgeon and is permanently stationed aboard the vessel as hospital ship commander.

CIVILIAN SPECIALISTS APPOINTED TO OFFICE OF SURGEON GENERAL

Nineteen civilian consultants were recently appointed to the Office of the Surgeon General as advisers to the Army Medical Department on problems of internal medicine. The appointees for the respective specialties are: gastroenterology, Dr. Walter L. Palmer, University of Chicago, and Dr. Chester M. Jones, Harvard University; heart disease, Dr. Paul D. White, Massachusetts General Hospital, Boston, and Dr. Robert L. Levy, Columbia University; skin diseases, Dr. Joseph G. Hopkins, Columbia University, and Dr. John H. Stokes, director, Institute for Control of Syphilis, University of Pennsylvania; infectious diseases, Dr. Colin M. MacLeod, New York University, Dr. W. Barry Wood Jr., Washington University, St. Louis, Dr. Charles E. Smith, Stanford University, and Dr. Caroline B. Thomas, Johns Hopkins University; chemotherapy, Dr. Chester S. Keefer, Boston University; allergy, Dr. Robert A. Cooke, Cornell University, and Dr. Francis M. Rackemann, Massachusetts General Hospital, Boston; tropical diseases, Dr. Robert B. Watson, principal malariologist, Tennessee Valley Authority, Dr. James A. Shannon, New York University, Dr. Harold W. Brown, Columbia University, and Dr. Mark F. Boyd, director of the Station for Malaria Research, Tallahassee, Fla.; tuberculosis, Dr. James J. Waring, University of Colorado, and Dr. James B. Burns Amberson Jr., Columbia University.

AIR SURGEON'S CONVALESCENT PROGRAM

Col. Henry M. Bailey was recently designated commanding officer of the new Personnel Distribution Command within the Army Air Forces, consolidating within one organization various related activities in connection with the processing of AAF personnel going overseas and returning from combat. The command will include supervision of the AAF redistribution center, through which all Air Forces personnel return to this country from assignments abroad, and the seven AAF convalescent centers now operating in the United States. The command also will operate a number of rest camps, the first of which was recently established at Lake Lure, N. C. The two Air Forces overseas replacement depots at Greensboro, N. C., and Kearns, Utah, also will be operated by the personnel command. Personnel allotted to redistribution stations, replacement depots and convalescent centers will be reassigned to the new command. Members of the AAF returning from overseas first report to one of the redistribution stations, where they are interviewed and classified for new duties or, if necessary, sent to one of the convalescent centers for thorough physical reconditioning and for special training by which the AAF provides new opportunities for men who have been disabled in combat.

The convalescent centers have been conducted by the Air Service Command and the First Air Force and are located at St. Petersburg, Fla.; Pawling, N. Y.; Fort George Wright, Washington; Fort Logan, Colorado; Albuquerque, N. M.; Nashville, Tenn., and Coral Gables, Fla. The Air Surgeon reported that 80 per cent of the patients at the convalescent centers since December 1942 have been returned to duty. More than thirty courses of vocational training are now available in these centers for returned soldiers. The Air Surgeon also reports that thirty million man-hours have been spent in convalescent training since its organization.

The AAF convalescent training program also takes care of the soldier who is to be discharged from service and is designed to assist the man in making the best possible physical, social and economic adjustment on leaving the Army. In many cases suitable employment is found for him in aircraft industries.

The Air Surgeon's Convalescent Training Program was recently cited by the American Academy of Physical Education. The text of the citation read "Shortly after the entrance of our country into this war the Office of the Air Surgeon took the initiative in organizing and promoting a Convalescent Training Program in the hospitals of the Army Air Forces. With disregard for precedent they pushed this program forward rapidly and effectively; they engaged in pertinent experimental work to clarify some of the more debatable problems related to reconditioning of the ill and injured, and pioneered the establishment of this movement in this country. For making available to the sick and disabled of our armed forces the latest discoveries and the finest services of both medicine and physical education, the American Academy of Physical Education takes pleasure in citing the Convalescent Program of the Office of the Air Surgeon."

ARMY AWARDS AND COMMENDATIONS

Colonel Maurice C. Pincoffs

Col. Maurice C. Pincoffs, chief consultant in medicine in the Southwest Pacific and former professor of medicine of the University of Maryland School of Medicine, has been awarded the Legion of Merit for experiments in malaria control. The experiments were conducted on an island north of Australia, and most of those who participated in them were volunteers. Among them was a company of engineers. Dr. Pincoffs graduated from Johns Hopkins University School of Medicine, Baltimore, in 1912 and entered the service April 20, 1942. He was made chief of professional services in the Southwest Pacific in January 1943.

Colonel Luther R. Moore

The War Department recently announced the award of the Legion of Merit to Col. Luther R. Moore. The following citation accompanied the award: "As Surgeon for the Alaskan Department from December 1941 until March 1944 he established a highly efficient medical service for this command in spite of handicaps imposed by trying climatic conditions and the difficulties incident to hasty occupation of uninhabited islands during bad weather and with inadequate shelter. By his extensive professional knowledge, sound foresight and effective planning he provided adequate medical supplies throughout the command in spite of the wide dispersal of posts and limited transportation facilities." Dr. Moore graduated from the University of Illinois College of Medicine, Chicago, in 1912 and entered the service July 5, 1918.

Major General Morrison C. Stayer

The Distinguished Service Medal was recently awarded to Major Gen. Morrison C. Stayer. The citation accompanying the award read as follows: "While serving as Chief Health Officer, the Panama Canal, from September 1939 to February 1944, in the face of unprecedented difficulties, his untiring efforts and wise judgment resulted in the maintenance of exceptionally high standards in the Canal Zone and in the cities of Panama and Colon, and in the provision of adequate hospital facilities and personnel. His genius for organization proved invaluable to the government. The manner in which he met all responsibilities placed on him made possible greatly improved health conditions locally and played a large part in the outstanding results achieved in the field of health and sanitation. By his qualities as an officer, a very difficult situation dealing with standards of sanitation was handled in a superior manner. He rendered invaluable service in the recruiting of laborers from Central and South America for vital defense programs in the Caribbean area." Dr. Stayer graduated from Jefferson Medical College of Philadelphia in 1906 and entered the service May 31, 1909.

LST TRANSFORMED INTO HOSPITAL SHIP

The versatile LST has been transformed into a hospital ship to "carry scientific surgical care to the wounded rather than the wounded to surgical care." The new use of the landing ship in amphibious warfare was employed in the attack on the Holandia area of Dutch New Guinea without any loss of the LST's assault power. The LSTs become hospitals only after they have disgorged their cargo of tanks and troops on the beach. Then surgical teams take over. Three doctors and thirteen hospital corpsmen were assigned to each dual purpose LST used in the Holandia attack. Walking wounded go to starboard troops quarters. Stretcher cases are carried in over the ramp to the huge supply compartment and then to the port troop compartments, which have been set up as operating rooms and surgical wards.

MISCELLANEOUS

THREE MEMBERS OF TYPHUS COMMISSION RECEIVE AWARDS

Three medical officers were recently awarded medals for "exceptionally meritorious" services for their work with the United States of America Typhus Commission for the control of typhus among United States armed forces serving overseas. They are Capt. Charles S. Stephenson, U. S. Navy, the commission's first director; Dr. Rolla E. Dyer, Assistant Surgeon General of the U. S. Public Health Service, and Brig. Gen. James S. Simmons of the U. S. Army. The citations which accompanied these awards follow:

CHARLES S. STEPHENSON, Rear Admiral, U. S. Navy, for "exceptionally meritorious service in connection with the work of the United States of America Typhus Commission. In December 1942 he was appointed the first director of the United States of America Typhus Commission. Previous to this formal appointment Admiral Stephenson, then Captain (Medical Corps), U. S. Navy, had been a member of the original group which formulated plans for the commission. During a number of months he devoted his special knowledge, energy and abilities to development of detailed plans for the operation of the commission abroad and led the first group to the initial theater of operations overseas, establishing field headquarters in Cairo, Egypt. After the arrival of the commission abroad he at once arranged for a suitable laboratory and organized extensive surveys of regions of the Middle East. While engaged in these labors of administration and field work he suffered an attack of illness which made it necessary for him to relinquish the position of director. To his devotion and effective activity is due the energetic initiation of the work of the commission in large and extensive foreign theaters of operation."

JAMES S. SIMMONS, Brigadier General, U. S. Army, for "exceptionally meritorious service in connection with the work of the United States of America Typhus Commission. In August 1942 General Simmons, then Colonel, Medical Corps, realizing the extreme hazard that typhus fever presented to the military forces operating in the many regions of the world in which it is endemic, formulated plans which ultimately resulted in the establishment of the United States of America Typhus Commission. He was the founder of the commission and it was due to his vision and broad conceptions that the commission was developed as a united undertaking between the Army, Navy and U. S. Public Health Service for the purpose of protecting the armed forces from typhus fever and preventing the introduction of the disease into the United States. Although already burdened with extensive duty and responsibility, he has devoted his energy, knowledge and ability to the development of all phases of the program and activities of the commission. His contribution to the work of the commission has been of paramount importance."

DR. ROLLA E. DYER, Assistant Surgeon General, U. S. Public Health Service, for "exceptionally meritorious service in connection with the work of the United States of America Typhus Commission. Dr. Dyer, a noted authority on typhus fever in this country, has been one of the chief guides and mainstays of the United States of America Typhus Commission since the first discussions from which the conception and establishment of the commission proceeded. Long a contributor to knowledge of typhus fever through his own research and for many years a leader in public health administration, he has brought to the benefit of the commission special knowledge, sound judgment and effective assistance. At all times since the first meetings of the original group whose plans were the basis for the development of the commission, he has given constant and unstinted service to the commission. In addition to his contribution of special knowledge and his influence on the activities of the commission, he has placed at the disposal of the commission invaluable laboratory accommodations and research assistance at the National Institute of Health for the study and utilization of an unequaled collection of typhus material which has been sent back to this country by the members of the commission working abroad."

PRESCRIPTIONS FOR HEAVY CREAM

All prescriptions for heavy cream must be approved by a local public health officer or secretary of a county medical society, according to a recent announcement by the War Food Administration. WFO 13 prohibits the sale of heavy cream containing more than 19 per cent butterfat. The order provided that physicians might prescribe such cream in cases in which it was important to the health of their patients. This action is expected to limit the use of rich cream to rare cases when required. Beginning August 1, the sale or delivery of so-called filled cream, containing more than 19 per cent of all kinds of fat, will be prohibited. The War Food Administration stated that this action represents further effort to save milk solids not fat for more essential wartime uses.

Effective June 7 this action also: 1. Broadens present definition of cream products to include serrated (air expanded) cream, reconstituted cream and those cream products to which sugar, condiments, spices, flavoring or similar ingredients have been added. This restriction is designed to prevent dealers from marketing a product containing more than the allowed percentage of butterfat by varying its composition slightly. 2. Tightens present restrictions on heavy cream or cream products by specifically prohibiting their sale to or use by hotels, restaurants and other public eating places, except for making ice cream. Under another order (WFO 8) the use of cream or other milk solids in frozen dairy foods production is limited.

VOCATIONAL WAR PRODUCTION TRAINING COURSES

The War Manpower Commission reported recently that a total of 2,935 veterans of this war were taking vocational war production training courses through the period from January 1 to April 1. Most of them were reported in training in radio, machine operation, welding and aircraft occupations. These veterans constitute the first large "class" of veterans of this war to enter training after their war service. The veterans were in training in a majority of the states in training programs coordinated by WMC's Bureau of Training and administered by the U. S. Office of Education of the Federal Security Agency, in cooperation with state and local boards of education. Of the 2,935 veterans enrolled, 2,332 were employed in war production jobs and were in training "supplementary" to their employment. The remainder were in "preemployment" training preparing for war jobs. California had the largest number of veterans in training in connection with employment in war industries, with a total of 660 for the three months.

HOSPITALS NEEDING INTERNS AND RESIDENTS

The following hospitals have indicated to the Council on Medical Education and Hospitals that they have not completed their house staff quota allotted by the Procurement and Assignment Service:

(Continuation of list in THE JOURNAL, June 17, page 500)

ILLINOIS

Belmont Community Hospital, Chicago. Capacity, 125; admissions, 3,778. Mrs. Gertrude F. Scofield, Superintendent (2 interns, July 1).

MINNESOTA

Bethesda Hospital, St. Paul. Capacity, 180; admissions, 6,083. Rev. L. B. Benson, Superintendent (interns).

WISCONSIN

St. Michael Hospital, Milwaukee. Capacity, 172; admissions, 5,009. Sister M. Alphonse, Superintendent (intern, October 1).

THIRD ARMY-NAVY E AWARD GRANTED PICKER X-RAY CORPORATION

The Picker X-Ray Corporation, New York, has recently been granted the third Army-Navy E award. This organization is the sole manufacturer of the Army Field X-Ray Unit and was the first x-ray industry to receive the Army-Navy E award, Aug. 28, 1942, its first star July 10, 1943 and its second star Feb. 26, 1944.

ORGANIZATION SECTION

PROCEEDINGS OF THE CHICAGO SESSION

MINUTES OF THE NINETY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD IN CHICAGO, JUNE 12-16, 1944

HOUSE OF DELEGATES

First Meeting—Monday Morning, June 12

The House of Delegates convened in the Red Lacquer Room of the Palmer House and was called to order at 10:15 a. m. by the Speaker, Dr. H. H. Shoulders.

Preliminary Report of the Reference Committee on Credentials

The following preliminary report of the Reference Committee on Credentials was submitted by Dr. Deering G. Smith, Chairman: The Reference Committee on Credentials has the honor of reporting an early registration of 150 delegates at this time.

Roll Call

A motion by Dr. Allen H. Bunce, Georgia, duly seconded, to dispense with the formal roll call and accept the registration of the delegates was not carried, since the roll would have to be called in order to proceed with a ballot on the Distinguished Service Award.

The Secretary called the roll and announced that a quorum was present.

Supplementary Report of the Reference Committee on Credentials

Dr. Deering G. Smith, Chairman, reported a registration of 159 delegates at this time.

Distinguished Service Award

Dr. Roger I. Lee, Chairman of the Board of Trustees, presented a report of the Board, as follows:

The Committee on Distinguished Service Award of the American Medical Association submitted five names to the Board of Trustees.

In accordance with chapter VI, section 5, of the By-Laws, the Board has selected by ballot the following names for presentation to the House of Delegates in alphabetical order: Dr. Isaac A. Abt, Chicago; Dr. George Dock, Pasadena, Calif.; Dr. Simon Flexner, New York.

The Speaker appointed as tellers Drs. Arthur J. Bedell, Section on Ophthalmology; E. N. Roberts, Idaho; Henry S. Ruth, Section on Anesthesiology; Benjamin F. Cook, Vermont, and John Z. Brown, Utah.

The tellers spread the ballot, and the Secretary announced that one hundred and fifty-three votes had been cast, of which Dr. Abt received forty-nine, Dr. Dock fifty-two and Dr. Flexner fifty-two.

The Speaker announced that, since no one nominee had received the majority of the votes cast, the name of the one receiving the lowest number of votes would be dropped and ballots prepared for Drs. Dock and Flexner.

The Secretary stated that one hundred and fifty-seven votes had been cast, of which Dr. Dock received eighty-eight and Dr. Flexner sixty-nine.

The Speaker declared Dr. George Dock, who had received the majority of the votes cast, to be elected by the House of Delegates to receive the Distinguished Service Award of the American Medical Association and directed the Secretary to inform Dr. Dock of this action.

Adoption of Minutes of Chicago Session in 1943

It was moved by Dr. Arthur J. Bedell, Section on Ophthalmology, seconded by Dr. H. B. Everett, Tennessee, and carried, that the Proceedings of the Chicago Session of the House of Delegates held in 1943 be adopted as printed.

Address of the Speaker, Dr. H. H. Shoulders

The Vice Speaker, Dr. R. W. Fouts, Nebraska, presided while the Speaker read his address, which was referred to the Reference Committee on Reports of Officers:

Mr. Speaker, Members of the House of Delegates and Guests:

First, I wish to express to you my deep sense of appreciation of the privilege of addressing you again as your presiding officer.

The first session of the House over which I had the honor of presiding was the extraordinary session held here in Chicago in 1938. It was called for the purpose of considering serious problems which had arisen from an emergency situation. It has seemed to me that the House has been confronted with issues of tremendous importance and magnitude in every session since that time. Certainly no one can say that conditions in the nation have been normal and, most of the time, the conditions have been those which are classed as emergencies.

Many of the problems you have faced and acted on were of such a nature as to provoke division of opinion and controversy. At least some of the issues have touched the very foundation stones of our temple of freedom. The conditions to which I refer were not limited to the field of medicine. On the contrary they were widespread—so widespread in fact as to touch all the people in every economic level.

It has been necessary, therefore, for you to perform your tasks in an atmosphere which, to say the least, was highly charged—an atmosphere in which a spark might set off an explosion. However, no explosion has occurred. On the contrary, your actions are characterized by a remarkable degree of unanimity. It seems to me that one can observe three outstanding features of your record worthy of reference now and always. First is your record of action on all issues which touched in any way the freedom and dignity of the individual American citizen. Your actions have been consistently on the side of freedom. You have detected the presence of *the fundamental issue,* even when it appeared in such a disguise as to escape the observation of many persons.

The second feature of your record to which I refer is this: When a question has been presented to you for action the exact answer to which is not known at the moment by any one—questions which in their very nature require experimentation and research over a period of time to find the proper answer—you have not assumed to know the answer at that moment, nor have you dodged the issue. In such situations you have taken the sound course of laying down fundamental principles to serve as a guide in the conduct of experimentation and research on the questions at issue until the proper answers are found.

A third feature is the attitude you have displayed toward the indigent and so-called underprivileged groups in their relationship to medical care. It is in this connection that your actions have been misunderstood most often. The fact is, you have never taken action in opposition to a proposed government benefit to these groups except when the proposed medical benefit contained or was coupled with a threat to the freedom

and dignity of the individual citizen. You have held to the idea that the achievement of individual freedom in this country is, within itself, the greatest single benefit ever established for the welfare of mankind. You have held to the view that the general welfare which grew out of this state of individual freedom is a benefit not to be sacrificed nor bargained away in exchange for any other form of benefit, and especially one not proved.

I have never thought it appropriate for one in my position to speak on any question which may become an issue before the House. However, I don't think it will be a violation of such a policy for me to make brief reference to an alleged "challenge" to the profession (*Medical Care*, February 1944, p. 11). In reality the "challenge" is to this House of Delegates, because you are the only representative body of doctors in position to answer any such challenge to the profession.

The so-called challenge is made by an active proponent of radical change in our American system of medical practice. It is to the effect that the very high quality of medical care which all admit is being received by the soldiers and sailors of our armed forces everywhere is proof that such a regimented system of medical care should be adopted and enforced by the federal government for all the people. It is not at all surprising that such a suggestion should be made from the source it comes. Nor is it surprising at all that the author failed to mention several features of the military system. He did not mention the fact that in this system the patients and the doctors ARE BOTH REGIMENTED. He did not mention that patients in this instance are tagged and sent or ordered to a certain institution for service, that they are required to accept whatever service is provided and that they continue to be under military discipline even as patients. The author of this challenge attempts to carry forward the obvious deception that the medical profession can be regimented without at the same time regimenting the patients also. He forgets that you have stood for freedom of the patient first, not just for the freedom of the doctor. He forgets, or at least does not mention the fact, that soldiers both medical and combatant have sacrificed their personal freedom for the moment, as they are willing to sacrifice their lives, for the purpose of winning a war to make freedom secure; that they do not make this sacrifice merely to demonstrate what, to some, may appear to be an ideal way of life.

Most important of all, he who would apply a military regimen to civilian life forgets that the judgments and the skill brought to bear on the medical needs of our military forces are fundamentally the product of our civilian system of medical training and practice, in the development of which the policies adopted by this House of Delegates are entitled to no small measure of credit. He does not mention the numerical ratio between doctors and patients in the Army, nor does he make any reference at all to the cost of medical care under military administration.

I call attention to this challenge for the purpose only of emphasizing again that the proponents of radical change are as clever, persistent and deceptive as they are fundamentally unsound.

Thanks to the National Physicians Committee, we are now in possession of dependable data which show conclusively that when people understand the full significance of proposed radical changes they are, in the main, opposed to their adoption. The same reports show also that our profession has a much higher standing in the estimation of the people than even we imagined.

In conclusion, I wish to remind you of another item in the record. In the first address I ever made to you I borrowed an expression from Voltaire to express a sentiment to which I still subscribe. That expression is "I wholly disagree with what you say but will defend with my life your right to say it." I have not changed the attitude thus expressed, although I do not expect to disagree with what you have to say, nor shall I express an opinion on any issue which you are to decide. The decisions reached by the House are your sole responsibility. My duties are simply to cooperate with you in your deliberations to the end that a majority opinion is always expressed after deliberation.

Reference Committees

The Speaker, before announcing the personnel of the Reference Committees, asked and received permission, on motion of Dr. William Weston, Section on Pediatrics, seconded by Dr. Walter E. Vest, West Virginia, and carried, to name three additional reference committees, namely the Reference Committee on Executive Session, the Reference Committee on Postwar Planning and the Reference Committee on War Participation. The personnel of the Reference Committees as appointed by the Speaker is as follows:

SECTIONS AND SECTION WORK

L. W. Larson, Section on Pathology and Physiology, Chairman
William Weston, Section on Pediatrics
Jean Paul Pratt, Section on Obstetrics and Gynecology
J. Archer O'Reilly, Section on Orthopedic Surgery
R. D. Bernard, Iowa

RULES AND ORDER OF BUSINESS

Willam R. Brooksher, Chairman, Arkansas.
Thomas F. Thornton, Iowa
Forrest L. Loveland, Kansas
Thomas A. Foster, Maine
Edward N. Ewer, California

MEDICAL EDUCATION

Wilburt C. Davison, Chairman, North Carolina
Thomas S. Cullen, Maryland.
Leon J. Menville, Louisiana
Charles H. Phifer, Illinois
Francis F. Borzell, Pennsylvania

LEGISLATION AND PUBLIC RELATIONS

Thomas A. McGoldrick, Chairman, New York
Lloyd Noland, Alabama
H. G. Hamer, Indiana
William R. Molony Sr., California
Robert L. Anderson, Pennsylvania

HYGIENE AND PUBLIC HEALTH

Don F. Cameron, Chairman, Indiana
Walter W. King, Colorado
Stephen E. Gavin, Wisconsin
R. C. Williams, U. S. Public Health Service
Stanley H. Osborn, Section on Preventive and Industrial Medicine and Public Health

AMENDMENTS TO THE CONSTITUTION AND BY-LAWS

Raymond L. Zech, Chairman, Washington
L. G. Christian, Michigan
Harry V. Paryzek, Ohio
Walter E. Vest, West Virginia
Charles E. Mongan, Massachusetts

REPORTS OF OFFICERS

George W. Kosmak, Chairman, New York
Carl R. Steinke, Ohio
Thomas A. Pitts, South Carolina
Walter G. Phippen, Massachusets
Arthur S. Risser, Oklahoma

REPORTS OF BOARD OF TRUSTEES AND SECRETARY

Edwin S. Hamilton, Chairman, Illinois
Olin H. Weaver, Georgia
J. B. Lukins, Kentucky
Robert E. Schlueter, Missouri
Francis J. Savage, Minnesota

CREDENTIALS

Deering G. Smith, Chairman, New Hampshire
H. B. Everett, Tennessee
G. Henry Mundt, Illinois
A. P. Nachtwey, North Dakota
Thomas M. Brennan, New York.

MISCELLANEOUS BUSINESS

Henry A. Luce, Chairman, Michigan
Charles G. Strickland, Pennsylvania
Lucius F. Donohoe, New Jersey
Robert A. Peers, California
Robert H. Hayes, Illinois.

EXECUTIVE SESSION

L. A. Buie, Chairman, Section on Gastro-Enterology and Proctology
Thomas P. Murdock, Connecticut
William A. Mulherin, Georgia
Charles H. Henninger, Pennsylvania
Walter B. Martin, Virginia
E. H. Cary, Texas
James M. Flynn, New York

WAR PARTICIPATION

James R. McVay, Chairman, Missouri
Edward Jelks, Florida
James P. Wall, Mississippi
Andrew F. McBride, New Jersey
William D. Johnson, New York

POSTWAR PLANNING

Walter F. Donaldson, Chairman, Pennsylvania
George F. Lull, U. S. Army
Harold W. Smith, U. S. Navy
William A. Coventry, Minnesota
Henry R. Viets, Section on Nervous and Mental Diseases

TELLERS

Arthur J. Bedell, Section on Ophthalmology
E. N. Roberts, Idaho
Henry S. Ruth, Section on Anesthesiology
Benjamin F. Cook, Vermont
John Z. Brown, Utah

SERGEANTS-AT-ARMS

Frank E. Reeder, Michigan
Forrest J. Pinkerton, Hawaii

In Memoriam

The Speaker resumed the chair.

In accordance with the established custom of the House of Delegates of taking official notice of the death of Fellows who have served the Association in official capacities, either as members of the House or as officers of the Association, the Speaker requested the Vice Speaker to call the roll of those who had passed away since the House met in June of 1943.

The Vice Speaker read the roll as follows:

(The dates following the names indicate years of service in the House or as officers of the Association.)

Allen B. Anderson, Nebraska, 1903.
John R. Ballinger, Illinois, 1918.
Lewellys F. Barker, Maryland, 1909. First Vice President, 1916.
Arthur Dean Bevan, Chicago, Section on Surgery and Anatomy, 1902-1903. President-Elect, 1917-1918; President, 1918-1919.
Ross B. Bretz, U. S. Army, 1934; 1935 Special Session.
Horace J. Brown, Nevada, 1923; 1929; 1938; 1938 Special Session; 1941.
Wright Clarkson, Virginia, 1935-1936; 1938-1940.
Clifford U. Collins, Illinois, 1912.
William Moody Cunningham, Alabama, 1926-1927.
Roy P. Forbes, Colorado, 1931.
James A. Gage, Massachusetts, 1908; 1910.
James Grassick, North Dakota, 1913.
Oliver D. Hamlin, California, 1905; 1909; 1911-1912; 1916; 1926.
Robert A. Hatcher, New York, Section on Pharmacology and Therapeutics, 1917.
Alexander A. Higgs, Idaho, 1911.
Thomas Hubbard, Ohio, 1904.
William H. Humiston, Cleveland, Section on Obstetrics and Diseases of Women, 1902.
Wilson Johnston, Washington, 1911.
Jacob C. Krafft, Illinois, 1916-1917.
Louis Leroy, Tennessee, 1903.
Frank R. Makinson, California, 1940.
Curtis C. Mechling, Pennsylvania, 1932-1933; 1936-1939.
Francis M. McCallum, Missouri, 1926; Section on Genito-Urinary Diseases, 1915.
Arthur T. McCormack, Kentucky, 1908-1914; 1916-1917; 1919-1931; 1935 Special Session; 1937-1943.
J. Harris Pierpont, Florida, 1908-1909.
William W. Roblee, California, 1937.
John L. Rothrock, Minnesota, 1921; 1923-1926; 1928.
Walter G. Schulte, Utah, 1934.
Frank C. Sibley, Illinois, 1917.
Virgil E. Simpson, Kentucky, 1913; 1932-1943.
Andrew Sloan, New York, 1935 Special Session.
Halbert G. Stetson, Massachusetts, 1904; 1912-1914; 1916-1932.
Walter S. Stewart, Pennsylvania, 1922.
Willard J. Stone, Toledo, Ohio. Section on Practice of Medicine, 1918.
Walter W. Strang, New York, 1911.
Frank Warner, Ohio, 1902-1903.
Joseph L. Wicks, Wyoming, 1905.
William T. Wootton, Arkansas, 1917-1918; 1924.

On motion of the Vice Speaker, seconded and carried, the House stood in silent tribute to the memory of those of its members and of officers of the Association who had died since the Chicago session of the House in 1943.

Address of the President, Dr. James E. Paullin

The Speaker presented the President of the Association, Dr. James E. Paullin, Atlanta, Ga., who delivered the following address, which was referred to the Reference Committee on Reports of Officers:

Mr. Speaker and Members of the House of Delegates:

First, permit me to express my deep appreciation of the honor conferred on me by electing me to the highest office within the gift of this Association. Occupying the office of President of the largest and best medical association in the world has made me keenly conscious of the responsibilities which rest now on the shoulders of the medical profession and which have been greatly multiplied by the undreamed of demands made not only on the officials of the American Medical Association but also on the members of each of its constituent state and territorial associations. These demands for increased activity made necessary by our participation in the war effort have been assumed with a willingness which is characteristic of all patriotic Americans. During my term of office as President-Elect and as President I have sought the advice and counsel of many members of the House of Delegates as well as of the various councils, bureaus, committees and officers of our organization. To each and all grateful acknowledgment is made for their help and for their sympathetic understanding of a common interest in the problems facing our people.

During the past year it has been impossible for me to accept many of the generous invitations extended by state medical associations and other medical gatherings to attend their meetings as a representative of the American Medical Association. Difficulties of travel have made some of these visits impossible; the chief reason for declining, however, has been the increased duties and responsibilities added to this office by the House of Delegates in making the President a member of the Council on Medical Service and Public Relations and of the Postwar Planning Committee. These additional responsibilities, together with those already a part of the ex officio duties, have required that a greater amount of time be given to what I have considered the most important activities of this Association. The new council and the new committee have dealt with many unexplored problems created by the present emergency.

I should like to direct your attention to certain parts of the reports submitted to this body by the Board of Trustees, the Council on Medical Education and Hospitals, the Council on Medical Service and Public Relations, the War Participating Committee and the Postwar Planning Committee. These reports, as well as those of all of the councils, bureaus and committees, are examples of much thought and time given by capable physicians to the solution of some of the present day medical problems as well as constructive planning for greater problems of the near future. The results achieved have been accomplished despite the almost hysterical demands from some sources for immediate action on difficult situations which have required mature deliberation for their solution. Each of these committees or councils brings to you recommendations which have been agreed on only after careful consideration of the effect which their adoption will have on the ultimate service which the medical profession can render to the continued good health and general well being of the American people. My intimate association with these committees permits me in this address to emphasize some of their objectives.

WARTIME GRADUATE MEDICAL MEETINGS

The Wartime Graduate Medical Meetings organized for the purpose of continuing postgraduate instruction to those physicians who have joined the military services have been remarkably successful. This effort, sponsored by the American Medical Association in cooperation with the American College of Surgeons and the American College of Physicians, has been most useful in maintaining an intimate contact between civilian physicians and those in the military service. From the experience gained in promoting this type of instruction it is believed that there will evolve from this experiment a worthwhile pattern for continuous postgraduate medical education of the future. The faculty conducting these courses of study consists of 30 consultants and 1,650 teachers who visit Army and Navy hospitals over the entire United States and give programs consisting of clinics, ward rounds, lectures, demonstrations, round table discussions and clinical pathologic conferences covering the entire field of laboratory medicine, clinical medicine, surgery, roentgenology and all other specialties. Such courses of instruction, lasting from one to five days, have the approval and support of the Surgeons General of the Army, Navy and Public Health Service. At the end of this year it is believed that every military hospital in this country will have had given to its personnel one or more of these courses. This type of instruction carried to the smaller hospitals, distantly removed from medical centers, points the way for the development of more effective postgraduate instruction of the future in that it will decentralize much of this type of teaching from the large medical centers.

POSTWAR PLANNING

The War Participating Committee and the Postwar Planning Committee have submitted important reports, the one dealing with present problems and the other for the development of future medical service when hostilities cease. The War Participating Committee serves a most useful purpose, particularly as an active liaison committee between the American Medical Association and various federal agencies.

The Postwar Planning Committee has made certain recommendations to the Board of Trustees which will be submitted for your approval. It is my desire to stress what I conceive

to be a great duty and function of this the American Medical Association in implementing these recommendations.

The Postwar Planning Committee and the Council on Medical Education and Hospitals of the American Medical Association, in cooperation with the Association of American Medical Colleges and the American and Catholic hospital associations, is perfecting a plan whereby it will be possible to furnish information to those physicians who desire it, where additional medical training may be obtained when they are discharged from the military service. Such a program contemplates providing assistant residencies, residencies, fellowships, refresher courses, postgraduate courses and training in the various specialties. The type of instruction to be made available will depend to a great extent on the answers which are now being received to a questionnaire which was sent to members of the profession who are now on duty with the Army, the Navy and the Public Health Service. Other groups vitally interested in the development of this program are the American College of Surgeons, the American College of Physicians, the Advisory Board of Medical Specialties, national and state boards of licensure, as well as the United States Veterans Administration, the United States Army, the Navy and the Public Health Service. On each one of these there rests a responsible part in planning for the quality and the quantity of medical service which can be made available to the American people when the war is over. Such a program visualizes the necessity of providing further training for the 20,000 to 25,000 younger physicians now in the military service who have never engaged in the private practice of medicine. Responsibility for the accumulation, evaluation and codification of these data is placed with the Council on Medical Education and Hospitals. The Postwar Planning Committee has already recommended to the Board of Trustees that there be established in Chicago a bureau which will provide information to physicians discharged from the military service concerning communities in need of or who desire certain types of medical service. This bureau, in cooperation with state and county societies, can accumulate information concerning the available facilities for the practice of medicine in many communities and can serve a most useful purpose in the better distribution of physicians in the United States. I strongly urge on the House of Delegates that this recommendation be given your earnest consideration.

THE SUPPLY OF MEDICAL STUDENTS

The attention of the House of Delegates is directed to the serious situation which is faced by our medical schools in providing a constant flow of physicians to supply civilian needs. The accelerated medical training program, participated in by all medical schools, contemplates the graduation of approximately 6,000 students each year. At the beginning of this program 55 per cent of the places were to be filled by the Army, 25 per cent by the Navy and 20 per cent by women, physically disqualified men and those deferred by Selective Service. This was bad enough, but a recent directive from the headquarters of Selective Service, in which after July 1, 1944 there will be no deferment for premedical students, stops abruptly the entrance in 1945 of practically all desirable students who are not either physically disqualified or women to whom we can look in the near future to supply medical care for civilian needs. When it is realized that there is already an annual deficit of at least 2,200 physicians caused by death or forced retirement from civilian practice beyond the 1,200 who graduate with deferred classification, it can be readily seen that a very serious situation will soon face us. Already the Council on Medical Education and Hospitals, and the Procurement and Assignment Service, have been most active in opposing such a directive, particularly as it concerns the premedical students, but I regret to report that little progress has been made. So hazardous is this situation for the health and welfare of the American people that a special report will be presented by some of the official bodies of the American Medical Association for action by the House of Delegates at this session. I cannot urge too seriously that the House of Delegates give this problem most careful consideration with a view not only to the attitude that is to be adopted but to the manner in which the decision of the House of Delegates is to be impressed on the governmental authorities of the United States.

REHABILITATION OF THE DISABLED

Consideration should be given to an effort looking toward the unification or to the establishment of a cooperative program directed to the rehabilitation of those discharged from the military services and for those who will need this type of care resulting from accidents or illnesses occurring in civilian life or industrial occupation. At the present time there are many agencies concerned or have already established programs to deal with these problems. The Army, the Navy, the Air Forces, the Veterans Administration, Selective Service, the War Man Power Commission and numerous industrial organizations have established installations for rehabilitation. With so many agencies interested in this field there undoubtedly will be much reduplication of effort and overlapping of service. Since so many of these patients will ultimately filter back to the civilian physicians, would it not be wise, if such is possible, to establish a central coordinating agency in which all groups will be represented and establish a unified program having many points of general agreement, and adopt the best methods from all of accomplishing the desired results? The civilian physician must have a considerable part in this reconstructive and rehabilitation scheme since there are already 4.5 million men disqualified by Selective Service for military duty who will need some form of treatment. There is every reason why the American Medical Association in cooperation with other groups should assist in formulating a cooperation program for the accomplishment of this purpose.

PROVISION OF MEDICAL CARE

The kaleidoscopic changes occurring almost daily in our national life are reflected in many ways in medicine and medical practice. Such rapid changes from week to week have increased the demands for advice and for the expression of opinions concerning new problems arising in their relation to medical care. The officers of this Association have at times found it difficult to answer satisfactorily questions propounded to them concerning new situations which have not been clearly and explicitly defined by previous action of the House of Delegates. As an example of such confusion it might be cited that the Childrens Bureau of the Department of Labor instituted in March 1943 the Emergency Maternal and Infant Care program designed to furnish obstetric and infant care to the wives and children of enlisted men under a certain grade. Compensation for this service is made by the Childrens Bureau to the state department of public health, and this agency is in turn to pay the physician and the hospital rendering the service. No definite policy had been established until the action of the House of Delegates in June 1943 after the program had been in effect for three months. As soon as this policy was established, your representatives did what they could to impress this point of view on the federal agency concerned. Therefore, in the absence of clearly stated policy by the House of Delegates on many questions which arise, if your officers fail to express themselves on such matters they are charged with ultraconservatism, whereas if an opinion is advanced about which there is no definite policy they may be charged with going beyond the established precedent. It would seem to me, as I have observed during my incumbency as President-Elect and President of the American Medical Association, that there is now a great need for a definite and detailed statement of policy which will guide the medical profession and the officers of this Association in dealing with many questions which are arising and will continue to arise concerning medical care. Such a statement should outline the extent to which the federal government and various federal agencies interested in medical service may enter various fields of medical care and expect the full cooperation of the medical profession in a combined program. The platform of the American Medical Association specifically states that the federal government may aid in the provision of medical care whenever the need can be shown, provided the control of the funds is left to state or local agencies.

At the present time and perhaps with greater acceleration in the postwar period various federal agencies interested in providing medical service may enter with greater enthusiasm the field of medical care involving such aspects as the prevention of disease, the provision of special laboratory and roentgenologic services and the diagnosis and treatment of disease

in various fields and areas, and to make this type of service more effective these agencies may desire to create a greater number of health centers which will furnish the type of service described but will also accentuate preventive medicine to a greater extent by emphasizing immunization, health education and the essentials of nutrition by and furnishing facilities in these units for the observation and treatment of a small number of seriously ill patients. Again, other agencies will be interested in constructing hospitals in needed areas under different types of control, and it can be assumed that under certain circumstances some communities may seek federal aid in a program of obtaining the services of physicians in areas of the country requiring additional doctors. On all these questions the House of Delegates may anticipate developing situations and formulate a policy which will guide the various councils, committees and officials of the Association in the postwar period.

The medical profession has never desired to remain static in any of its efforts or accomplishments; particularly is this true at a time such as this, when the entire world is in a turmoil and chaotic conditions prevail among all nations as well as our own. Problems of medical care are fundamental to the reconstruction and rehabilitation of our nation. Necessary changes must occur in the distribution of medical care to make it more generally and easily available and at a lower cost without the slightest diminution in quality. The medical profession must take the lead in constructively planning these evolutionary changes. The recent survey of public opinion made for the National Physicians Committee has made clear that what the people want most is a better distribution of medical service at a lower cost. The question of sickness insurance on a compulsory or on a voluntary basis is one of the great problems which must be considered as a means of reaching this end. Conceivably the federal government might wish to encourage compulsory sickness insurance by offering subsidies to states in which such programs are developed, and it is also conceivable that federal aid might become available for the encouragement and expansion of voluntary insurance plans. The rapid increase in the numbers of those who are insured against hospital costs, medical costs, accidental injury and sickness is evidence that the American people still desire to express their own independence and provide care for themselves. Industry has developed its own type of prepayment insurance against the cost of medical care by furnishing hospitalization and medical service supplied by physicians on a full time basis. With these methods and other proposals which undoubtedly will develop there is brought up for consideration many questions of policy which can be met only by adequate consideration by the governing body of this Association.

UNITY WITHIN THE ORGANIZATION

During the past year it has been observed that in attempting to present the point of view, as established by the House of Delegates, to many governmental agencies we have been met with the statement that the American Medical Association does not speak for the medical profession of the United States. The reason for this is that some state medical associations have been active in presenting to the public points of view opposed to the policies previously established by the House of Delegates. If the ethical principles and conditions of practice established by the House of Delegates are to be successfully supported, state and county medical societies should bring their differences here for discussion rather than place them before the public. In times such as this it is only by the development of complete unity and support that the views of the medical profession, which have been developed for the best interests of the public and for the advancement of medical science, can be made to prevail. If the purposes and ideals and desires for which we as a medical profession stand are worth while, then there should be the loyal support of every member of all organizations to see that they prevail.

Address of the President-Elect, Dr. Herman L. Kretschmer

The Speaker presented the President-Elect, Dr. Herman L. Kretschmer, Chicago, who delivered the following address, which was referred to the Reference Committee on Reports of Officers:

Mr. Speaker and Members of the House of Delegates:

May I take this opportunity to express my thanks to this House of Delegates for the honor conferred on me when you elected me President-Elect of the American Medical Association.

I wish to take this opportunity to thank the headquarters staff for their splendid cooperation and helpfulness. Also may I thank the Editor of the world's greatest medical journal, Dr. Morris Fishbein, and the Secretary and General Manager, that grand figure in American medicine, Dr. Olin West. Their advice and counsel have been of inestimable value to me personally and to all the medical profession.

I wish to take this opportunity also to express a word of appreciation to your Board of Trustees. It has been my privilege to sit not only with the Board but also with the Executive Committee at each of its meetings during the past ten years. The Board is representative both as regards the various sections of the country and as regards the various fields of medical practice. Since the first time I sat with the Board, I have had nothing but words of praise and admiration for their devotion to duty. They are faced with many serious problems, which are always weighed with a great deal of care. Policies are discussed at length and with serious deliberation. I have yet to meet a member of the Board of Trustees who takes his job lightly and who does not give to it the best of which he is capable. Not only do these men travel great distances to and from the meetings but the amount of homework is staggering. The Board is not a closed corporation, as has been alleged; any member of the Association may bring his problem to it.

Occasionally one hears criticism of some action or failure of action by the Association. I listen patiently, then I always ask this question: "Have you gone through the home of the Association and seen for yourselves whether or not you have been reliably informed?" Only too frequently, I am sorry to say, the answer is "No, I have not." I would strongly urge every member of this House of Delegates to pay a visit to the headquarters office. I am sure you will be well repaid for your time and effort.

Of the many problems that confront the physicians of this country today, none exceeds in importance the legislation recently introduced into Congress as the Wagner-Murray-Dingell bill. No other piece of legislation has received as much consideration not only from physicians and men in allied professions but from business executives and from men in other professions. Note the detailed study given to this subject by the American Bar Association.

This trend in legislation has been going on for a good many years with not too much consideration by the profession at large, so that we were accused of not being interested. I should like to call attention to the fact that twenty-four years ago Dr. Whalen introduced a resolution into the House of Delegates on the subject of socialized medicine.

I believe it is incumbent on every physician in this country to devote at least two hours a day to educating the people in his community as to the significance of such legislation, which would result in the deterioration of medical service, limitation in the choice of the physician and increased taxes. I believe every physician in this country is in a position to do educational work along this line. I do not believe that this problem can be solved by "letting George do it." A program of education beginning at the grass roots, with the patient and his physician, is one of the most important approaches to the solution of the problem. Once the patient is well informed regarding the problem, the sailing so far as the profession is concerned should be smooth.

THE NATIONAL PHYSICIANS COMMITTEE

May I discuss with you for a moment the splendid work that has been accomplished by the National Physicians Committee. I do not know of any other organization capable of performing such a splendid piece of work as that which it has carried out. The results of the survey conducted by it is most interesting and instructive. And the concensus seems to be that it has rendered a valuable service to medicine in this country. I regret the lack of physicians' interest in this committee, as revealed in the report just issued by it. This report disclosed that only 6,227 individual physicians made contributions during the past year supporting the committee.

PUBLIC APPRECIATION OF AMERICAN MEDICINE

One hears much loose talk to the effect that the medical profession is "in bad" with the public. I have always thought this an old bromide. As a matter of fact, in the first issue of the *Transactions* of the American Medical Association, in 1848, there appears a similar statement with reference to our poor status with the public due to certain practitioners of medicine and that this should be corrected. Much of this loose talk, in my opinion, is in the nature of what may be called a "smear campaign." I have always maintained that, except for the smearers, American medicine stands supreme with the vast majority of the people of this country.

The pilot survey undertaken by the National Physicians Committee revealed the outstanding fact that the public is interested in the developments of new technic and the Association's work in upholding the standards of medical practice and in improving the products that are used in the treatment of the sick.

Another enlightening fact brought out by the survey was that a large number of people believe in prepayment plans. Interesting is the fact that those who participate in these plans think they are better off with them than without them. A large number of the people interviewed think that some sort of a prepayment plan should be provided. This subject should have the further attention of the medical profession. Whatever plans are developed must be under the control of the physicians, because, after all, they render medical services to the patient.

NEUROPSYCHIATRIC PROBLEMS

May I quote from article 2 of the Constitution of the American Medical Association: "The objects of the Association are to promote the science and art of medicine and the betterment of public health." I believe that a great opportunity exists for the Association to sponsor a program directed toward the improvement of the mental health of the people and to assume leadership in solving the neuropsychiatric problems with which we are faced today. A comprehensive study of the mental health of our people has not been undertaken so far as I know. During the present war the neuropsychiatric problem has aroused much discussion. The large number of men rejected by the draft boards is well known. The large number of neuropsychiatric casualties is legion. It has been stated that neuropsychiatric disorders are the largest single cause of casualties in the present war. The numerous articles which have appeared are illustrative of the widespread interest and the seriousness of this problem. The American Medical Association can, I am sure, accept leadership in this most important problem as it has done on many other occasions. I have in mind the splendid achievements of the Association in the Fourth of July campaign, as a result of which deaths and injuries due to Fourth of July accidents have almost passed out of the picture. The campaign for the eradication of typhoid is another splendid pioneering achievement. In the present problem particular stress must be laid on the prevention of neuropsychiatric disorders.

PRESCRIPTION OF DRUGS

Another problem that is deserving of the serious consideration of this House of Delegates is the problem of drug therapy. I have always been more or less interested in this subject and I recently had several interesting experiences which again aroused my interest in it. I wonder how many of you have any idea of the type of prescriptions that are written by the physician for the treatment of the patient. I recently reviewed 5,000 consecutive prescriptions in four pharmacies and was amazed to find that in one pharmacy 38.4 per cent called for proprietary preparations. Among 1,000 prescriptions reviewed in a teaching hospital, 14 per cent were for proprietary medicines. This is a serious and a deplorable situation. I think it is due to the fact that the teaching of pharmacology has not fulfilled its function.

Unfortunately, about two thirds of the men responsible for the teaching of pharmacology in the grade A medical schools are not doctors of medicine and of the doctors of medicine attached to these departments only a small percentage have practiced for a long time. I gained the impression from a study of my questionnaire that prescription writing and drug therapy is a chore to be avoided or, in some instances, is work beneath the dignity of the professors. I am of the opinion that too much emphasis has been placed on the so-called scientific or laboratory side and that not enough consideration has been given to the teaching of materia medica, therapeutic and prescription writing.

It is lamentable when the young graduate goes to the pharmacist and asks him to write a prescription. One pharmacist told me that he can tell which firm's detail man has "worked" his neighborhood, because that particular firm's products have first call on the prescriptions. When our system of education does not teach the young doctor proper drug therapy, I think something should be done about it. In view of this chaotic condition, it behooves every physician in this country to follow the recommendations of the Council on Pharmacy and Chemistry of the American Medical Association. It deserves much more support than it has received from the profession at large.

SCIENTIFIC MEDICAL PROGRAMS

I should also like to discuss with you scientific medical programs. As one reviews the programs of the Association over the years, one cannot help being impressed with the wealth of material presented to the medical world at the annual sessions. But I sometimes wonder whether these programs may not at times fail to fulfil their objectives. In my opinion I believe that insufficient consideration is given in adjusting these programs to the needs and desires of the general practitioner. I am cognizant of the fact that the principal new things that have been developed in the past year should be presented to the profession at the annual session. While this is of primary importance, we should not fail at the same time to recognize that the man over the corner drug store not only needs to be informed of the new things that have developed in the past year but must have something to take back and use in his practice. This is evidenced by the fact that sessions for the general practitioner have been included in the last two programs. Before the official opening of the meetings of the Association, two days are devoted to what one might call postgraduate courses. A review of the program this year shows a presentation of important and timely subjects.

Your Committee on Scientific Assembly has arranged a splendid program. *This preliminary program is deserving of much more publicity than it has received in the past. I am of the opinion that this program should be built around the general practitioner.* May it not be well to set up some type of arrangement whereby each section would devote to topics for the general practitioner one of the three days now given over to the presentation and discussion of papers in its regular program? With the wealth of new developments and new technics, this would cut down the amount of time on the present programs; however, as the Association is an educational institution, I can visualize the extension of the session from three days to four.

I hope that what I have said will not be interpreted as derogatory to the splendid programs that we have had in the past and that we have this year, but I do believe that we should stop, look and listen—to see how we can make the programs serve a much larger number of physicians in this country and make the annual session of greater value to the general practitioner.

Because the American Medical Association is a scientific and educational body, it will survive in peace and in war, in prosperity and in depression, just so long as it continues to maintain its high standards of educational and scientific excellence. It is because of these efforts that the physicians of this country will continue to support the Association under any and all conditions.

Report of Council on Medical Education and Hospitals

RESOLUTION ON SHORTAGE OF MEDICAL STUDENTS

On request of the Acting Chairman of the Council on Medical Education and Hospitals, Dr. Charles Gordon Heyd, the House consented to the immediate consideration of a resolution dealing with shortage of medical students, which was presented by Dr. Heyd as follows:

The Council feels that its efforts to preserve the structure of medical education would be strengthened by adoption of the following resolution by the House of Delegates:

WHEREAS, The present policy of the Army and the Selective Service System in preventing the enrolment of a sufficient number of qualified medical students will inevitably result in an overall shortage of qualified physicians with imminent danger to the health and well being of our citizens; therefore be it

Resolved, That it is imperative that immediate action be taken by the President or the Congress of the United States to correct the current drastic regulations which result in a restriction of the number of students qualified to enter the courses of medical instruction in approved medical schools.

The resolution was adopted on motion of Dr. Arthur J. Bedell, Section on Ophthalmology, seconded by Dr. Robert E. Schlueter, Missouri, and carried after discussion by Dr. Frank H. Lahey, Chairman of the Board of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians, and Dr. Wells P. Eagleton, New Jersey.

REPORTS OF OFFICERS

Report of the Secretary

Dr. Olin West, Secretary, presented his report as printed in the Handbook, which was referred to the Reference Committee on Reports of Board of Trustees and Secretary, except the proposed amendment to the Constitution, which was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Report of Board of Trustees

Dr. Roger I. Lee, Chairman, presented the report of the Board of Trustees as printed in the Handbook, which was referred to the Reference Committee on Reports of Board of Trustees and Secretary, with the exception of the reports of the Bureau of Legal Medicine and Legislation and the Bureau of Medical Economics, which were referred to the Reference Committee on Legislation and Public Relations.

Supplementary Report of Board of Trustees

Dr. Roger I. Lee, Chairman, presented a supplementary report of the Board of Trustees, as follows:

1. REPORT ON RESOLUTION REQUESTING BOARD OF TRUSTEES TO PREPARE A CONCISE STATEMENT OF ACHIEVEMENTS OF THE MEDICAL PROFESSION FOR SUBMISSION TO BOARDS OF EDUCATION: The Board of Trustees feels that the intent of the resolution has been accomplished through publication of material on the achievements of medicine in practically every issue of HYGEIA and also through several histories of medicine which have been published recently.

2. COUNCIL ON PHYSICAL THERAPY: The Board of Trustees recommends that the name of the Council on Physical Therapy be changed to Council of Physical Medicine.

3. SUPPLEMENTARY REPORT FROM THE COUNCIL ON INDUSTRIAL HEALTH: The following report of the Council on Industrial Health is approved by the Board of Trustees:

The attached report has been approved by the Council on Industrial Health after consultation with representatives from the American Federation of Labor, the Congress of Industrial Organizations, the National Association of Manufacturers, the United States Chamber of Commerce and the Joint Claims Committee of the Stock and Mutual Casualty Insurance Companies. Because of the current importance of placing the disabled in suitable employment, each of the listed conferees is asking for ratification of this report by the respective parent organization.

The Council on Industrial Health, therefore, requests approval of this report by the Board of Trustees and the House of Delegates.

C. M. PETERSON, M.D., Secretary.

PURPOSE

The purpose of industrial health programs is to promote and maintain the physical and mental welfare of all industrial employees. Health examinations in industry are a means to this end.

Unjust or questionable exclusion from work through improper application of the findings on health examinations in industry is against the public welfare and contrary to sound industrial health principles.

From the public and industrial health standpoint, the only absolute bars to immediate employment in nonhazardous occupations should be:

1. Communicable disease.
2. Mental illness in which impaired judgment or actions prevent cooperative effort.
3. Incapacitating injury or disease.

Other considerations related to employer liability, workmen's compensation, factory acts and health codes must be determined separately for each jurisdiction.

Specifically, the objectives of industrial health examinations are:

1. To facilitate placement and advancement of workers in accordance with individual physical and mental fitness.
2. To acquaint the worker with his physical status and to assist him in improving and maintaining personal good health.
3. To safeguard the health and safety of others.
4. To discover and control the effects of unhealthful exposure.
5. To promote cooperative support and understanding of industrial health practices by employer and employee alike.

SCOPE

Industrial health examinations should include:

1. Past medical family and occupational history.
2. Physical findings.
3. Personality appraisal.
4. Laboratory data.
5. Summary and recommendations.

GENERAL PROCEDURES

Since placement of the worker in suitable employment is an important objective of industrial health examinations, the examiner will obtain best results only when he is familiar with the industry he serves. Medical inspection of the plant or industrial premises at regular intervals is essential to an adequate health examination program as well as in other aspects of industrial hygiene.

Health examinations in industry are classified under two major headings:

1. Preplacement examinations of prospective employees.
2. Periodic examinations (regular or special).

In either case the examinations should be complete.

The examination should be conducted by the physician himself, except such routine procedure as can safely be assigned to trained assistants. The worker should remove all clothing in a private room. Special arrangements and a nurse or female aide in attendance are necessary in examining women.

EQUIPMENT

Health examinations will be facilitated if the following equipment is available:

Examining table
Stools, chairs and couch
Mirror
Screen
Scale and measuring rod
Metal measuring tape
Spotlight
Distant and near reading cards
Color sense testing cards
Nose and throat mirror
Transilluminator
Blood pressure instrument
Luer syringes (2 cc. and 10 cc.)
Thermometer
Dynamometer
Centrifuge
Microscope
Stethoscope
Ophthalmoscope
Blood vacuum tubes
Otoscope
Reflex hammer
Rubber gloves and finger cots
Tuning forks
Hemoglobin outfit
Urinalysis equipment
Garment racks
Standard office furniture

RECORDS

Content.—No single form has been devised to suit all requirements. The accompanying example is a composite of many used successfully in industry.

Regardless of form, the records should contain:

1. Identification data: name, address, date and place of birth, race, sex, marital status, clock or social security number. Some industrial physicians include name and address of next of kin.

2. Past medical and occupational history: Although details may be elicited by assistants, the importance of significant past health experience should be evaluated by the physician himself.

3. Physical findings:

(*a*) Preplacement examination. The attached form is designed for preplacement health examinations. Clarity and uniformity of expression are desirable. Variation in procedure will depend on specific industrial exposures and special job requirements. Examinations for transfer to other work or on return to work after prolonged absences are essentially preplacement in character.

(*b*) Periodic examination. Reexamination should be conducted in the same detail as the original preplacement exami-

nation survey. The recommended form can be readily modified to allow for reexamination and to meet special requirements. General principles are fully described in "Periodic Health Examination—A Manual for Physicians," American Medical Association, Chicago, 1940. Repetition of health examinations must be determined by the physician in charge, based on his original examination and the nature of the industrial environment.

4. Personality data. Observation of temperament, personality and significant nervous or mental manifestations should be correlated parts of a complete examination. The brief outline suggested in the form has been used in practice with good results.

5. Laboratory data. Urinalysis, hemoglobin determination, blood test for syphilis, chest x-ray examination, differential blood smear and blood sedimentation rate are employed in industry in about that descending order of frequency.

6. Summary and recommendations.

INDUSTRIAL HEALTH EXAMINATION

Employer — City — State
Name — Address — Clock No.
Age — Race — Marital Status — Sex — Social Sec. No.
Personal Physician — Next of Kin

Personal and Family History:
Immunization Record:

Occupational History:

Physical Examination: Date — Examiner
Height — Weight — Chest Measurement { Inspiration / Expiration
Temperature — Pulse { Resting / After Exercise — Girth
Blood Pressure — Posture — Musculature — Nutrition
Skin — Glands — Hair — Scalp

Vision { Distant { Right / Left — Corrected { Right / Left
Vision { Near { Right / Left — Corrected { Right / Left
Vision { Color Sense — Depth Perception — Eyegrounds

Hearing { Right / Left — Nose-Throat — Tongue
Tonsils — Neck
Teeth — Gums
Lungs { Right / Left
Heart
Abdomen — Hernia
Genitalia — Rectum — Prostate
Spine
Joints — Reflexes — Hands — Feet
Dysmenorrhea

Laboratory Data: Date — Examiner
Urine: Appearance — Specific Gravity — Sugar — Albumin — Sediment
Blood: Hemoglobin — Smear — Sedimentation Rate
Wassermann — Kahn — Kline
X-Ray: Chest — Other

Personality Data:
Appearance { Neat / Careless / Slovenly — Temperament { Aggressive / Quiet / Cooperative / Noncooperative — Intelligence { Quick / Average / Dull
Comparative Schooling * { Advanced / Average / Retarded — Summary { High / Medium / Low

Summary and Recommendations: — Rating:

* Comparative schooling refers to the level of education attained in comparison with other children in the family.

Rating.—Usage varies in rating health status, but the common intent is to classify workers in one of the following groups:

A. Fit for all work.
B. Fit for work under periodic medical review:
   1. With limited physical exertion.
   2. In nonhazardous work.
   3. With orthopedic defect.
   4. With defective vision.
   5. With defective hearing.
   6. With neuromental handicap.
C. Unfit for work at time of examination.

Preservation and Use.—The examining physician may properly put information derived from records of industrial health examination to the following uses:

1. All major findings should be discussed with the worker, with emphasis on the importance of obtaining immediate and adequate medical care.

2. A transcript may be supplied to the employee's personal physician or to other official community health agencies on request or consent of the employee.

3. The employer should be given information in accordance with the rating plan described in this report to facilitate placement or promotion. A special simple form can be devised for this purpose. The employer should especially be notified of any condition or disability thought to be caused by faulty work environment.

4. Governmental agencies such as courts, workmen's compensation commissions or health authorities should be supplied with information on legally enforceable official order or when required by law.

In all other respects the confidential character of health examination records should be rigidly observed and access should be granted only on consent, in writing, of the worker, preferably after preliminary discussion with the examining physician.

Suitable filing equipment and training of personnel should be provided for the safe keeping and confidential maintenance of all medical records in the exclusive custody and control of the medical director.

PERSONNEL

Health examination is an important service of an industrial medical department having regular medical staff supervision. Where considerable numbers of examinations occur, nurses, technicians and clerks are helpful in securing and recording data in routine procedure. They require training, which should be accepted as a special responsibility of the medical director.

In small plants, employers customarily make arrangements with individual examiners. A modification of this practice is to secure the services of an examiner from a panel of physicians approved by the county medical society for services of this kind.

COSTS

Industry should furnish, without charge, all medical and clinical assistance essential to a health examination program.

REVIEW AND APPEAL

When a worker has been physically examined, and the doctor making the examination reports that he is physically unfit for any work or for certain classes of work, which report may have an adverse effect on the employment of such worker, the following procedure shall apply:

The worker may designate a physician of his choice and request a review of the findings made by the examining doctor. These two physicians may proceed to render a joint report. If they are not in agreement, then a third physician, agreed on by the two reviewing physicians, shall be selected and his findings shall be final. If the two physicians cannot agree on a third physician, then the chairman of the industrial commission in the state in which the plant is located shall make the selection.

4. Report of Conference of Committee Consisting of Three Representatives Each of the American Medical Association and the American Hospital Association: Pursuant to action taken by the House of Delegates of the American Medical Association at the annual session held in June 1943, a conference was held between the Board of Trustees of the American Medical Association and the board of trustees of the American Hospital Association. After extended discussion, a committee consisting of three representatives of each association was appointed to confer with a view to develop an expression of opinion that could be reported back to the respective organizations.

The conference is of the opinion that the evolution now going on in the field of hospital and medical care has developed throughout the nation a great variety of technics for the provision of roentgenologic, pathologic and anesthetic services, and the conference therefore suggests that

The American Medical Association and the American Hospital Association reaffirm the Principles of Relationship between Hospitals and Radiologists, Anesthetists and Pathologists as approved in 1939.

Neither prepayment plans for hospital care nor prepayment medical plans with all their significance for distribution of such care should be used to force a change in present relationships between hospitals, radiologists, anesthetists and pathologists as outlined in these Principles.

The extension of prepayment plans for medical and hospital care must not be interrupted by any group which would use the acknowledged values of such prepayment services to the public as a device to force a set national pattern in the relationships between physicians and hospitals.

These principles, which are consistent with the historical background of development, have evolved through democratic processes by agreement between the Board of Trustees of the American Hospital Association, the Council on Medical Education and Hospitals of the American Medical Association, the American College of Surgeons, and the various specialty societies representing the groups involved and give proper consideration to patients, physicians and hospitals.

Until experience shall have determined the technic whereby roentgenologic, pathologic or similar services may best be provided and remunerated, the decision of any individual hospital should be determined by agreement between the administration and the medical staff of such hospital.

In determining the technic, the principles of relationship between hospitals and radiologists, anesthetists and pathologists adopted in 1939 should prevail.

5. COMMITTEE TO COOPERATE WITH NATIONAL ADVISORY COUNCIL ON PHYSICAL FITNESS: A committee has been appointed by the Board of Trustees to cooperate with the National Advisory Council on Physical Fitness consisting of the following members: Drs. R. L. Sensenich, Louis A. Buie, Morris Fishbein, George Lull and William D. Stroud.

6. RESOLUTION ON HEALTH EDUCATION IN SECONDARY SCHOOLS: The following resolution, adopted by the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, was approved by the Board of Trustees for presentation to the House of Delegates:

WHEREAS, Health education is an effective method for improving the health of students and for influencing their attitude toward community health; and

WHEREAS, The Office of Education, with the assistance of representatives from the U. S. Public Health Service, the Children's Bureau, representatives of the armed forces and others, has prepared a suggested program of health education entitled "Physical Fitness Through Health Education"; and

WHEREAS, The Office of Education with the assistance of a special committee composed of individuals associated with medicine, education and public health has issued a report on "The Preparation of Teachers for the Program of Physical Fitness Through Health Education"; and

WHEREAS, The Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association is vitally interested in all efforts to improve the health of the nation through health education efforts; therefore be it

Resolved, That the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association endorses the recommendation of the Office of Education that schools throughout the country provide programs of health education for all secondary school students, adapting the suggestions contained in "Physical Fitness Through Health Education" to the particular needs and problems of their students and community; and be it further

Resolved, That the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association urges that school administrators provide sufficient allotments of time to permit an integrated health education program that includes such topics as accident prevention, nutrition, disease prevention, first aid, functioning of the human body, community hygiene, correction of remediable defects, the dangers of self medication and of fads and quacks, home care of the sick, mental hygiene and the use of professional health services; and be it further

Resolved, That the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association urges that teachers of health education be adequately prepared in health education and that state departments of education prepare specific requirements for those who are and those who will be responsible for secondary school health education.

7. RESOLUTIONS ON GIVING INTELLIGENT INSTRUCTION IN SCIENCE AND BIOLOGY TO THE YOUTH OF AMERICA: The Board of Trustees approved for presentation to the House of Delegates the report as follows:

In pursuance of the action of the House of Delegates instructing the Bureau of Health Education to further the purpose of the resolution relative to biology teaching, the bureau submitted the resolution to the Joint Committee on Health Problems in Education of the American Medical Association and the National Education Association, and the following statement was adopted by that committee:

The Joint Committee thoroughly approves the basic idea that sound teaching in hygiene is dependent on a real understanding of the fundamental biology involved. We should like very much to see high school students better prepared in all aspects of general biology to the end that they may understand their own and their neighbors' reactions as members of a biologic species. We recommend that general biology be taught with the intention that it serve as a basis for health instruction. We have no objection, of course, to traditional botanic and zoological instruction but insist that such instruction be not substituted for this instruction in general biology intended as a prerequisite to instruction in health education.

We are reluctant to urge biologic instruction on the schools until we have reason to believe that there is teaching personnel capable of handling the subject in a really constructive way. We fear that, until the time has come when there are many good teachers of general biology, the making of such courses compulsory may have a reverse effect which may do damage to the whole development of the sound hygienic concept. We strongly urge that normal schools give more attention to preparation of teachers in general and human biology to the end that the subject may be vitalized, made interesting and capable of practical application.

Attention is respectfully called to the fact that many patrons of the schools are apprehensive of biology teaching because of its relation to such controversial subjects as evolution, reproduction and heredity. It is not unlikely that powerful religious opposition to compulsory biologic instruction might be offered in many places.

Attention is also called to the fact that the biology teacher in presenting this material would need to be somewhat of a philosopher in making the transition from the strictly scientific aspects of the subject to those having to do with their human application. Such a "philosopher" might go very far astray, as has indeed been the case in many instances when such teachers were "hipped" on some particular phase of the subject. In other words, this instruction is so vital that it is likely to arouse very deep antagonisms in the minds of many people.

When this basic general biology is introduced into a curriculum, it should be understood that it is preparatory to, and not a substitute for, later health education.

As illustrations of the sort of instruction which we feel to be very vital, we suggest the following:

(*a*) Students should be made familiar with the nature and behavior of bacteria and other parasites capable of causing disease. This should include the manner in which disease is produced and the means by which the body protects itself from these pathogenic forms. Abundant practical illustration should be made from the various diseases of man and domesticated animals.

(*b*) Of great importance is an understanding of the basic biology of the cell. This is fundamental to an understanding of heredity; to the prevention, diagnosis, classification and understanding of cancer; to a real appreciation of inflammation, body growth and repair.

(*c*) Of great importance is the understanding of the adaptation of a biologic species to its environment. This covers such matters as preservation and dissemination of the species, symbiosis, parasitosis and immunity.

(*d*) The student should have a basic understanding of the essential physiologic processes (metabolism, nutrition, respiration, elimination, conduction of stimuli and response to stimuli).

(*e*) The student should have a basic understanding of heredity in plants and animals.

(*f*) He should have a dignified and accurate vocabulary in matters pertaining to sex and reproduction and should conceive of these processes as being fundamental to life and the successful development of the individual, the family and society in general.

(*g*) There should be an understanding of the needs of plants and animals. Ecologic studies will enable the student the better to understand the economic and sociological problems of human behavior and society, as the problems of modern sociology and economics are simply the relations of human beings with one another as members of a gregarious animal species.

(*h*) A student should have an intelligent understanding of the theories and basic facts of biologic genesis and evolution to the end that he may appreciate the position of the human species in the long evolutionary picture, past, present and future.

(*i*) All such instruction should be directed toward the objective that the child may understand, as well as may be, his own body and his own and others persons' reactions in a complex and constantly changing world.
(*j*) Instruction of this sort should not be directed toward meeting college entrance requirements. If instruction in strict botany or zoology is desired, such instruction should not be permitted to take the place of the subject matter of this course.

With these reservations and in the light of these recommendations, the Joint Committee strongly endorses the development of general biology as a prerequisite to instruction in hygiene. We feel strongly that instruction of this sort should not be attempted until there is reason to believe that the equipment, personnel and textbook are of such nature and quality that the course will sell itself to thinking people as being one which is eminently practical and reasonable. We believe that there could be no more fundamental subject in the preparation of the child for the problems of life than in the study of the basic principles underlying life.

8. Resolutions from National Medical Association: Resolutions from the National Medical Association were referred without reading to the House of Delegates without recommendation by the Board of Trustees.

The Speaker referred items 1, 2 and 4 of the Supplementary Report of the Board of Trustees to the Reference Committee on Reports of Board of Trustees and Secretary, items 3, 6 and 7 to the Reference Committee on Hygiene and Public Health and item 8 to the Reference Committee on Executive Session.

Report of Judicial Council

Dr. George Edward Follansbee, Chairman, presented the Report of the Judicial Council as printed in the Handbook, which was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Report of Council on Medical Education and Hospitals

Dr. Charles Gordon Heyd, Acting Chairman, presented the report of the Council on Medical Education and Hospitals as printed in the Handbook and the following supplementary report, all of which was referred to the Reference Committee on Medical Education:

(*a*) *Essentials of an Acceptable Medical School.*—The present "Essentials" prescribe the contents of the curriculum within limits which are undesirable in the light of modern trends in medical education. Part of section VIII, Curriculum, now reads as follows:

"The entire course of four academic years should consist of from 3,600 to 4,400 hours, distributed as from 900 to 1,100 hours a year, and shall be grouped as set forth in the following schedule, each group to be allotted approximately the percentage of hours of the whole numbers of hours in the courses as stated:

	Number	Per Cent
1. Anatomy, including embryology and histology	14	18.5
2. Physiology	4½	6
3. Biochemistry	3½	4.5
4. Pathology, bacteriology and immunology	10	13
5. Pharmacology	4	5
6. Hygiene and sanitation	3	4
7. General medicine	20	26.5
Neurology and psychiatry		
Pediatrics		
Dermatology and syphilis		
8. General Surgery	13	17.5
Orthopedic Surgery		
Urology		
Ophthalmology		
Otolaryngology		
Roentgenology		
9. Obstetrics and gynecology	4	5
	76	100
Electives	24	

"When the teaching conditions demand it, a subject may be transferred from one division to another."

It is recommended that this portion of section VIII be changed to read as follows:

"Curriculum. The entire course should be designed to train the student in the science, art and practice of medicine, including the understanding and cultivation of health and the prevention and treatment of disease.

"The main purpose of the undergraduate curriculum should be to provide the student with a sound foundation in the fundamentals of medicine on which he can build in the future in general or special practice or in scientific investigation. He should have acquired such habits of mind and thought that, in addition to profiting by his professional experience, he will continue to educate himself throughout his life. By the end of undergraduate medical courses the student should have matured sufficiently to assume the responsible duties of his profession.

"The curriculum should extend over a period of at least four academic years and provide for adequate instruction in the following:

"Anatomy
Embryology
Histology
Neuroanatomy
Physiology
Psychobiology
Biochemistry
Pathology, bacteriology and immunology
Pharmacology
Preventive medicine
Hygiene and sanitation
Medicine, including
Pediatrics
Psychiatry
Neurology
Dermatology
Physical medicine
Therapeutics
Tropical medicine
Surgery, including
Orthopedic surgery
Urology
Ophthalmology
Otolaryngology
Radiology
Anesthesia
Obstetrics and gynecology"

(*b*) *Essentials of an Acceptable School for X-Ray Technicians.*—"Essentials of an Acceptable School for X-Ray Technicians" are presented herewith for ratification by the House of Delegates. These Essentials had been prepared by instructions from the House of Delegates to the Council.

PREAMBLE

The organizations primarily concerned with the training of x-ray technicians are the Council on Medical Education and Hospitals of the American Medical Association and the American Registry of X-Ray Technicians sponsored by the American College of Radiology and the American Society of X-Ray Technicians. The Council functions by inspecting, reporting and approving these schools, while the Registry investigates, examines and certifies the competence of technicians applying for registration.

The Council, with the cooperation of the Registry, has established the following standards for this type of training for the information of technical schools, physicians, hospitals, prospective students and others, and for the protection of the public.

Individuals are being trained in these schools to work as technicians under the direction of qualified physicians and not independently.

I. ADMINISTRATION

1. Acceptable schools for training x-ray technicians may be conducted by approved medical schools, general hospitals or x-ray departments affiliated with a general hospital. A complete x-ray department, with a sufficient volume and variety of x-ray examinations, should be maintained. The department shall comply with standard Safety Regulations for X-Ray and Radium Protection.

2. All training of technicians shall be under competent medical control.

3. Resources for continued operation of the school should be insured through regular budgets, gifts or endowments. The school shall not depend entirely on funds received as student fees. Commercial schools, operated for profit, frequently do not maintain proper educational or ethical standards and as such are not acceptable.

II. ORGANIZATION

1. Affiliation with an accredited college, university or medical school is desirable but not essential. When such an affiliation exists, an advisory committee should be established including representatives from the school and from the departments of the college, university or medical school which participate in the training program.

2. Adequate space, light and modern equipment should be provided in the x-ray department. A library containing up to date references, texts and scientific periodicals pertaining to x-ray technic should be maintained or be readily accessible to the students.

3. Satisfactory record systems should be provided for all work carried on in the department. Monthly and annual classifications of the work of the department should be prepared.

4. Records of students' college and other credentials should be on file. Records should be kept of each student's attendance and grades as well as the number and types of technical procedures performed. An outline of the curriculum and the rotation of assignments should be available in the radiologist's office.

5. Two or more students should be enrolled in each class. Approval is automatically withdrawn if a school does not have any students for a period of two years, unless a satisfactory reason is provided.

III. FACULTY

The school should have a competent teaching staff. The directing radiologist must be a duly licensed physician who is eligible for certification by or has been certified by the American Board of Radiology. He shall be in regular attendance for sufficient time to supervise adequately the training program. He should have at least one assistant instructor who is a trained x-ray technician, registered or eligible for registration by the American Registry of X-Ray Technicians. It is desirable that there be approximately one instructor for each two students.

IV. ADMISSION REQUIREMENTS

Candidates for admission should satisfy one of the following requirements:

(*a*) Completion of the four years of high school. Courses in physics, algebra, geometry and chemistry are recommended.

(*b*) Passing of a college entrance examination for admission to an accredited college or university.

(*c*) Graduation from a school of nursing recognized by the state board of nurse examiners.

V. CURRICULUM

1. The course of training should be not less than twelve months. The following subjects should be adequately presented: elementary anatomy and physiology, physics, x-ray equipment, darkroom chemistry and procedures, x-ray technics, ethics, record keeping and general office or departmental work. Adequate vacation periods should be allowed during each twelve months of training.

2. The instruction should follow a planned outline and should include lectures or informal discussions, demonstrations, supervised practice, text assignments and suitable examinations.

3. Adequate hospital experience should be provided. A hospital used for training x-ray technicians should be registered and be otherwise acceptable to the Council on Medical Education and Hospitals of the American Medical Association.

VI. ETHICS

1. Excessive tuition or other student fees and commercial advertising shall be considered unethical.

2. Schools conducted primarily for the purpose of substituting students for paid technicians will not be considered for approval.

VII. HEALTH

Applicants shall be required to submit evidence of good health and successful vaccination. All students shall be given a medical examination as soon as practicable after admission by a physician designated by the school. This examination shall include a roentgen examination of the chest. There shall be adequate periodic medical examinations of the student.

VIII. METHOD OF APPLICATION

1. Application for approval of schools for x-ray technicians should be submitted to the Council on Medical Education and Hospitals of the American Medical Association, 535 North Dearborn Street, Chicago 10.

2. Inquiries regarding registration of qualified x-ray technicians should be addressed to the American Registry of X-Ray Technicians, 2909 Raleigh Avenue, Minneapolis 16.

Report of Council on Scientific Assembly

Dr. A. A. Walker, Chairman, presented the report of the Council on Scientific Assembly as printed in the Handbook, which was referred to the Reference Committee on Sections and Section Work.

Report of Council on Medical Service and Public Relations

Dr. Louis H. Bauer, Chairman, presented the report of the Council on Medical Service and Public Relations as printed in the Handbook and the following supplementary report, which were referred to the Reference Committee on Legislation and Public Relations except the portion of the supplementary report referring to amendments to the Constitution and By-Laws, which was referred to the Reference Committee on Amendments to the Constitution and By-Laws, and the portion of the supplementary report concerning public health, which was referred to the Reference Committee on Hygiene and Public Health:

Supplementary Report of the Council on Medical Service and Public Relations

Since the published report was prepared, a number of matters have been considered by the Council.

There is a renewed attempt to unionize the employees of hospitals which may lead to serious eventualities. The Council invites attention to a decision of the Supreme Court of the state of Pennsylvania, which was issued on Jan. 6, 1941:

"A hospital is not an industry. It has not been the custom in the past to unionize hospitals. The effect of unionization and attendant efforts to enforce demands would involve results far more sweeping and drastic than mere property right.

"The question of profits for the employer or wages for the employees is not alone involved. It is not merely a matter of suspending operations, ceasing work and stopping production, such as might be true in a steel mill or automobile factory. It is a question of protecting the health, safety and, in many cases, the very lives of those persons who need the service a hospital is organized to render . . ."

The Council recommends that the House of Delegates go on record as opposing action by any group which might result in jeopardizing the health, safety and lives of patients.

Inasmuch as the E. M. I. C. program is being reported on at length by the Bureau of Health Education, the Council is making no additional recommendations on this subject, although it has considered the whole subject at length and has held a conference with Dr. Martha Eliot of the Children's Bureau. However, the Council desires to invite attention to a circular issued by the Children's Bureau, entitled "Maintaining Well-Baby Clinics in Every Community." This circular makes the following startling and unwarranted statements:

"They [the clinics] are of value not only to families in economic need but to all parents who wisely take advantage of the help they offer in keeping well babies well."

"The service that the mother receives in a child-health conference is more than she can get in the usual office visit to a doctor."

"It is particularly necessary at this time that enough of these well-baby clinics be made available in all communities . . . because the E. M. I. C. program . . . will rely on child health conferences for the health supervision of these babies."

"To insist that clinics be open to all mothers who seek this service free of charge."

Mothers are to be admitted without investigation of income.

These quotations are sufficient to show the trend of the Children's Bureau, and we cannot countenance such propaganda.

There has been a bill introduced by Congressman A. L. Miller of Nebraska which would transfer all government agencies dealing with health to the United States Public Health Service. The Council recommends approval of this bill. Among other things it would remove the Children's Bureau from the Department of Labor to a place where it more properly belongs, and the Council feels that such a transfer might aid in curbing the present aim of the Children's Bureau, which apparently seems to be chiefly the socialization of medicine in this country. Furthermore, the Children's Bureau has never been willing to accept good scientific opinion in the conduct of its affairs but has relied on a hand-picked committee, many of the members of which have been powerless to prevent actions of which they did not approve.

The Council held a meeting in Washington, D. C., on May 22 and 23. On May 22 a conference was held with other agencies interested in medical care. Besides the Council, among the agencies represented were two members of Congress, the American Dental Association, the United States Public Health Service, the Federal Security Agency, the War Manpower Commission, the Office of Vocational Rehabilitation, the Children's Bureau, the American Federation of Labor, the Congress of Industrial Organization, medical schools, the National Physicians' Committee, the Council on Medical Service of the Pennsylvania State Medical Society and the Medical Society of the District of Columbia. Every one present had an opportunity to express his views, and a short discussion period followed. It is hoped that further such conferences may be held in the future.

The Council feels that the work of the Bureau of Medical Economics is so closely allied with its own work that it recommends that the House authorize the reorganization of the Bureau as a research bureau and that it be amalgamated with the Council on Medical Service and Public Relations as a subdivision of that Council.

In furtherance of its recommendations that the American Medical Association take a more active part in encouraging voluntary insurance against the costs of hospital and medical care, the Bureau of Medical Economics under the direction of the Council should be charged with the following duties:

To assemble and make available information concerning the activities of all states.

To educate physicians by means of bulletins and the A. M. A. publications, regarding such activities.

To report regularly to the Board of Trustees and the Council on Medical Service and Public Relations.

To meet with the directors of present voluntary medical care plans to assist in the promotion and in the study of actuarial experience.

To meet with representatives of state associations.

To meet with representatives of the American Hospital and other national hospital associations and with hospital insurance or Blue Cross organizations.

To study and report on private insurance plans and policies.

To meet with industrial and labor organizations that are sponsoring medical care plans.

To establish a central bureau as a clearing house for existing voluntary mutual and private medical insurance plans.

The Council also recommends that it be authorized to employ a director of medical prepayment insurance with such assistants as may be necessary to assist in carrying out the foregoing program.

The Council has given a great deal of time and thought to the consideration of the status of medical officers in the Veterans' Administration. Many of these officers have belonged to state and county societies. They have then been transferred to another state. Because they do not have a license to practice in the new location, they lose their affiliation with the American Medical Association. When they come up for membership or fellowship in the colleges or for certification by a national specialty board they are held up because of the lack of any affiliation with the A. M. A. The Council held a conference with the officials of the Veterans' Administration, and the Council finally decided to request the General Manager to bring the matter before the Judicial Council and request that the Judicial Council propose to the House of Delegates the necessary changes in the Constitution and By-Laws of the Association to make it possible for reputable and qualified members of the Medical Division of the Veterans' Administration to become Fellows of the A. M. A.

A communication was received from the National Tuberculosis Association requesting the Council's approval of a resolution on the control of tuberculosis. The Council did not feel that it could approve it in the original form and has revised it and recommends that the House of Delegates approve it in this revised form:

WHEREAS, Published reports indicate a threatened increase in the prevalence of tuberculosis; and

WHEREAS, Tuberculosis is one of the principal public health problems in the United States and requires an intensified campaign to find the early case and to provide modern treatment; therefore be it

Resolved, That the Council on Medical Service and Public Relations recommends that the House of Delegates of the American Medical Association take the following stand:

1. That the control of tuberculosis requires intensification of case finding and follow-up of contacts.
2. That it is essential to promote the discovery of cases of tuberculosis in the minimal and, therefore, more hopefully curable stage.
3. That it is necessary to extend procedures for careful, continuous supervision of the tuberculous by practicing physicians, who, in cooperation with duly constituted health authorities, federal, state and local, are in a position to deal with these problems by modern methods to prevent the spread of this communicable disease.
4. That any extension of efforts better to control tuberculosis should be in keeping with the basic principles enunciated from time to time by the House of Delegates.

In our efforts to improve the distribution of medical care, besides the extension of approved voluntary insurance, hospital, medical society, industrial and commercial plans, the question of centers for diagnostic aid to the physician must be considered. There are areas in the country in which diagnostic facilities are not readily available, and this results in keeping physicians away from those areas or in a lowering of the standard of medical care rendered there.

Therefore the Council recommends that there should be a study and survey of those areas in which diagnostic facilities are inadequate.

These surveys could best be made by the local communities concerned. This study and survey should cover the practicability of establishing centers for diagnostic aid to the physician. There should be taken into consideration location, method of supervision, method of financial support and scope of activity. If the result of this survey indicates that establishment of such centers would facilitate the distribution of medical care of a high type to any area not having such care at the present time, the American Medical Association should stand ready to assist local communities in developing them.

The Council studied the platform of the American Medical Association which was adopted by this House six years ago. We felt that this platform should be revised and brought up to date. As you will recall, the original platform consisted of eight planks or principles, and each plank was followed by a certain amount of explanatory matter. The Council feels that these same principles still hold with minor changes in their wording but that the explanatory matter is in some cases obsolete and neglects covering some of the principles we have since adopted. Furthermore, there is one broad principle to which these eight principles are subservient. Hence the Council recommends that the platform be revised to read as follows:

1. *Availability of medical care of a high quality to every person in the United States.*

In carrying out this widespread distribution of medical care and in any evolution necessary in the methods of administering medical care, the basic principles necessary to the maintenance of scientific standards and the quality of the service rendered must be maintained.

It is not in the public interest that the removal of economic barriers to medical service should be utilized as a subterfuge to overturn the whole order of medical practice or the democratic plan of government. Removal of economic barriers should be an object in itself.

It is in the public interest that the standards of medical education be constantly raised, that medical research be constantly increased and that graduate and postgraduate medical education be energetically developed. Curative medicine, public health medicine, research medicine and medical education all are indispensable factors in promoting the health, comfort and happiness of the nation.

In carrying out this objective, the American Medical Association advocates:

A. *In the extension of medical services to all people, the utmost utilization of qualified medical and hospital facilities already established.*

There is no evidence that the American people wish different doctors or a different system of medical care. There is evidence that they wish that care more widely distributed and they wish some method of easing its economic burden, especially by prepayment plans. That the people desire a personalization of

service is evidenced by the fact that in the present time of full employment the turnover in charity hospitals is at a new low and the semiprivate and private beds in the private and voluntary hospitals are overcrowded, whereas in times of slack employment the reverse is true.

The extension of hospital facilities should be carried out only after a careful survey which indicates that present hospital facilities are being used to the utmost or that there is a definite lack of hospital beds for a particular community.

Again, it has been argued that the demands for medical care in some sections of the country might require the importation of considerable numbers of physicians or the transportation of numbers of physicians in the areas in which they now are to other areas. In this connection it would seem to be obvious that a change in the economic status of the communities concerned would result promptly in the presence of physicians who might be seeking locations. The utilization of existing qualified facilities would be far more economical than any attempt to develop new facilities. There are many emergency situations which may arise in time of war. In most instances these emergencies will not continue after the war. Where they do, other arrangements must be made to meet them.

B. *The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability, including the development and extension of voluntary hospital insurance and voluntary medical insurance.*

In the United States today our sickness and death rates are lower than those of any other great country in the world. This fact is generally recognized. The medical profession recognizes the importance of doing everything possible to prevent every unnecessary death. At the same time it has not been established by any available evidence that a change in the system of medical practice which would substitute salaried government doctors for the private practitioner subject to the control of public officials would in any way lower sickness and death rates. Compulsory sickness insurance in no instance has given as good a health record as the American system.

The medical profession has approved prepayment plans to cover costs of hospitalization and also prepayment plans on a cash indemnity basis for meeting the costs of medical care. It continues, however, to feel that the development of the private practice of medicine which has taken place in this country has led to higher standards of medical practice and of medical service than are elsewhere and that the maintenance of the quality of the service is fundamental in any health program.

The American Medical Association has approved prepayment hospital insurance subject to the principles adopted by the House of Delegates. The number of people covered by it is constantly increasing. Its availability should be extended to all who desire it.

Medical expense insurance has developed slowly, but much valuable experience has been accumulated. All constituent state associations have been urged to develop voluntary plans within their territory so that the entire country may be covered by such plans. The American Medical Association will assist in the development, correlation and integration of such plans. State welfare departments should consider the use of the insurance principle in caring for the indigent and medically indigent, rather than the present system. Industrial medical care plans on the voluntary principle must be investigated and developed under the guidance of constituent associations and component societies.

C. *Expansion of public health and medical services consistent with the American system of democracy.*

Careful study of the history of the development of medical care in various nations of the world leads to the inevitable conclusion that the introduction of methods such as compulsory sickness insurance, state medicine and similar technics results in a trend toward communism or totalitarianism and away from democracy as the established form of government. The intensification of dependence of the individual on the state for the provision of the necessities of life tends to make the individual more and more the creature of the state rather than to make the state the servant of the citizen. Great leaders of American thought have repeatedly emphasized the fact that liberty is too great a price to pay for security.

D. *The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.*

The physicians of the United States have given freely of their time and of their funds for the care of the sick. Their contributions to free medical service amounts to at least $1,000,000 a day. The physicians of this country have urged that every person needing medical care be provided with such care. They have urged also the allotment of funds for campaigns against maternal mortality, against venereal disease and for the investigation and control of cancer. The medical profession does not oppose appropriations by Congress of funds for medical purposes. It feels however that, in many instances, states have sought aid and appropriations for such functions without any actual need on the part of the state, in order to secure federal funds as might be available. It has also been impossible, under present technics, to meet actual needs which might exist in certain states with low per capita incomes, with needs far beyond those of wealthier states, in which vast sums are spent.

It is proposed here simply that Congress make available such funds as can be provided for health purposes; that these funds be administered jointly by the county, state and federal health agencies, mentioned in section H of this platform, and that the funds be allotted to proof of actual need to the federal health agency, when that need is for the prevention of disease, for the promotion of health or for the care of the sick.

E. *The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.*

Obviously if federal funds are made available to the individual states for the purpose mentioned in section D of this platform, there might well be a lessened tendency in many communities to devote the community's funds for the purpose and, in effect, to demand that the federal government take over the problem of the care of the sick. Hence it is suggested that communities do their utmost to meet such needs with funds locally available before bringing their need to the federal health agency, and that the health agency determine whether or not the community has done its utmost to meet such need before allotting federal funds for the purpose.

F. *The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.*

The medical profession wishes to extend preventive medical services to all people within the funds available for such a purpose. Obviously, this will require not only a federal health agency which may make suggestions and initiate plans but also a mechanism in each community for the actual expansion of preventive medical service and for the proper expenditure of funds developed both locally and federally. In the development of new legislation, such mechanism may be suitably outlined.

So far as preventive medicine and general measures of public health are concerned, there is great need for the increase of county or district departments of health. There are still too many areas without such coverage. Every area in the United States should have a health service with adequate personnel and facilities to render the service necessary to each community. It should be integrated with and coordinated by the state health department. Federal funds may be used to help establish these departments where local funds are inadequate, but the management should be under state and local authority.

G. *The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.*

The medical profession does not yield to any other group in this country in its desire to extend medical care to all those unable to provide themselves with medical service. The American

Medical Association has already recognized the existence of a group of persons able to provide themselves with the necessities of life commonly recognized as standard in their own communities but not capable of meeting a medical emergency. Hence, it is the platform of the American Medical Association that medical care be provided for the indigent and the medically indigent in every community but that local funds be first utilized and that local agencies determine the nature of the need and control the expenditure of such funds as may be developed either in the community or by federal government, as they are the most capable of determining the needs. Emergency and migratory labor may be a temporary federal responsibility. The use of the voluntary insurance principle should be considered by all agencies distributing medical care.

H. *The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.*

Today the medical and health functions of the United States are divided among a multiplicity of departments, bureaus and federal agencies. Thus, the United States Public Health Service and the Food and Drug Administration are in the Federal Security Agency; the Children's Bureau in the Department of Labor; the Veterans' Administration and many other medical functions are separate bureaus of the government.

Since 1875 the American Medical Association has urged the establishment of a single agency in the federal government under which all such functions could be correlated in the interest of efficiency, the avoidance of duplication and a saving of vast sums of money. Such a federal health agency, with a secretary in the cabinet, or a commission of five or seven members, including competent physicians, would be able to administer the medical and health affairs of the government with far more efficiency than is now done.

The Washington office of the Council was opened on April 3, 1944 at 1835 Eye Street N.W. Dr. Joseph S. Lawrence, Executive Officer of the Medical Society of the State of New York, was secured as a consultant and the development of the office placed under his direction. Reactions to this office have been favorable. Much needs to be done in organizing the states to cooperate with the office. Each state should designate a representative who will be the contact man with the Washington office so that information may be promptly circulated through the proper channels. Conferences with the states should be held at intervals to insure maximum efficiency in functioning. Two such conferences have already been held with the New England states and New Jersey. On June 11 another conference was held with other states here in Chicago. These conferences should be held from time to time in the future. Hence, the Council recommends that the proper organization of the Washington office should consist of a full time director, subject to the Council; that there should be a field agent whose duties it shall be to maintain personal contact with state associations and keep them informed of the activities of the Council; such clerical help as may be necessary and, eventually, a legal adviser, who at first will be on a part time basis. There will be close collaboration between the Washington office and the Bureau of Legal Medicine and Legislation.

The Council realizes that it has been criticized because it has moved slowly with reference to the Washington office. We feel that it has been most important to move slowly so that anything done would not have to be undone. The matter is now on a solid basis which will result in a constructive program and redound to the credit and benefit of the Association. One hasty action might well have set us back years.

The bulletins issued by the Council have been well received, but they can be improved on. When the Washington office is functioning with a full time staff, great improvement can and will be made in them.

The Council regrets to announce that Dr. G. Lombard Kelly, who has been secretary since January 1, feels that he cannot continue after July 1. We are all grateful to Dr. Kelly for the sacrifice he made in helping us out.

It is hoped that a new secretary will be available shortly. If the House approves the recommended amalgamation of the Bureau of Medical Economics with the Council, a provision should be made that the Director of the Bureau could be, though not necessarily, the Secretary of the Council as well.

Respectfully submitted,

Louis H. Bauer, Chairman.
Edward J. McCormick, Vice Chairman.
Alfred W. Adson.
John H. Fitzgibbon.
W. S. Leathers.
Roger I. Lee.
James R. McVay.
James E. Paullin.
Fred W. Rankin.
Olin West.
G. Lombard Kelly, Secretary.

Report of War Participation Committee

Dr. Walter F. Donaldson, Chairman, presented the report of the War Participation Committee as presented in the Handbook, which was referred to the Reference Committee on War Participation.

Report of Committee on Postwar Medical Service

Dr. Roger I. Lee, Chairman, presented the following report of the Committee on Postwar Medical Service, which was referred to the Reference Committee on Postwar Planning:

At the meeting of the Board of Trustees on Feb. 18 and 19, 1943 Dr. Paullin, President-Elect, presented a plan for postwar medical service. The Board of Trustees endorsed the suggestion that the American Medical Association take leadership in the matter, with the cooperation of the American College of Physicians and the American College of Surgeons. The Board of Trustees voted that a Committee on Postwar Medical Service be established to consist probably of eight or ten members; that the nucleus of the committee should be Dr. Lee, Dr. Paullin, General Rankin and Dr. Shoulders, who should have the privilege of naming the other members and of further enlarging the committee if it seemed advisable to do so, and that the Secretary and General Manager and the Editor should meet with the committee.

The four members of the committee forming the nucleus named as additional members Drs. F. G. Blake, Warren F. Draper and Alan Gregg and a Navy representative, who at first was Captain Agnew and who now is Captain Eaton.

The American College of Physicians named as its representatives Drs. E. L. Bortz, W. B. Breed, E. E. Irons, W. W. Palmer, J. E. Paullin and G. M. Piersol.

The American College of Surgeons named as its representatives Drs. Irvin Abell, A. W. Allen, F. A. Coller, E. A. Graham and James M. Mason.

The first meeting of this joint committee was held in Chicago on June 5, 1943. It was largely exploratory, and the general objectives were discussed. The matter came before the House of Delegates in the address of President-Elect Paullin, which was referred to a reference committee. The recommendation of that committee was adopted, i. e.:

"Your reference committee notes with enthusiasm the formation by the Board of Trustees of the temporary Committee on Planning of Postwar Medical Service, which action it recommends be approved by the House of Delegates.

"Your reference committee further recommends that the Board of Trustees be instructed to make this a permanent Committee on Planning of Postwar Medical Service to cooperate and collaborate with other agencies concerned with these problems."

The committee has been active and has held five meetings in Chicago, Washington and New York. Another meeting is scheduled for Wednesday, June 14, of this session.

Abstracts of the proceedings of the committee have duly appeared in The Journal of the American Medical Association.

As discussion developed concerning the committee program as a whole, "it was voted to invite representation on the committee from the Association of American Medical Colleges, the American Hospital Association, the Catholic Hospital Association, the Federation of State Licensing Boards, the Procurement and Assignment Service and the Advisory Board for Medical Specialties." The committee had previously invited a representative from the Veterans Administration. At the last meeting of the committee, the problem of further enlarging the committee was discussed, in view of numerous requests from various organizations for representation. The committee voted not to add representatives from additional groups for the present. It felt that at this time it was functioning well as a committee and that further enlargement now might defeat the original purpose and change the committee into a conference.

In this connection, the Chairman was requested by the committee to lay emphasis in his report to the House of Delegates of the American Medical Association on the importance of collaboration between this committee and the state medical societies. Some of the state medical societies have active committees on postwar medical services. These activities cover a wide range. Furthermore, the Chairman was requested to stress in his report collaboration with Procurement and Assignment officers and offices in each state. The records of Procurement and Assignment are of singular value in arriving at satisfactory estimates as to the number of physicians needed in different areas of each state. In this collaboration the War Participation Committee of the House of Delegates of the American Medical Association and the state committees will be very useful. On invitation of the committee, Dr. Walter F. Donaldson, Chairman of the War Participation Committee of the American Medical Association was present at one of the meetings of the committee.

The committee's discussions ranged widely over the field of postwar medical service. Already, with the approval of the Surgeons General of the Army, Navy and Public Health Service, a pilot questionnaire was sent to 3,000 medical officers in these three services. This was carried out by a subcommittee consisting of Drs. Abell, Mason and West, who had the invaluable assistance of Lieutenant Colonel Lueth, Surgeon General's Liaison Officer, who has an office in the Headquarters of the American Medical Association. At the meeting on April 29, Lieutenant Colonel Lueth was able to present some very illuminating data. Authorization has now been obtained to send a somewhat revised questionnaire to all the medical officers in the Army, Navy and Public Health Service. I think it is safe to say that this questionnaire will receive a very favorable response. It will make the medical officers feel that they are not forgotten men. Obviously, the data derived from these questionnaires will be of fundamental importance in determining what direction the committee's activities should take in meeting the needs of the returning medical officers.

The data from these questionnaires should indicate the size, scope and type of postgraduate instruction at the various levels of intern, resident and specialist training, and of other forms of postgraduate instruction required. The Council on Medical Education and Hospitals of the American Medical Association is already at work in this field.

The committee approached the Board of Trustees of the American Medical Association concerning the advisability of an information service, presumably at the headquarters office. The Board of Trustees reported that it desired to cooperate in the maintenance of an information service, which, however, should not have the function of a placement bureau but should act merely as a source of information. Preliminary steps have already been taken to inaugurate such an office of information.

As I have already stated, much of the discussion of the committee has been exploratory and has covered a wide range of possibilities. The committee is not unmindful that the war is not yet over and that, as it continues, problems change and very likely will be not only more numerous but more difficult. Some of these problems may well be modified by legislative enactments, both federal and state.

The committee submits this report as a record of a year's humble but earnest endeavor.

Supplementary Report of Board of Trustees

REPORT OF COMMITTEE TO STUDY THE RELATIONSHIP OF MEDICINE AND LAW

Dr. Roger I. Lee, Chairman, presented the following report of the Committee to Study the Relationship of Medicine and Law, which was referred to the Reference Committee on Legislation and Public Relations:

Of the many relationships that exist between medicine and law, none in the opinion of this committee, are more important than those closely integrated medical and legal activities that have as their common purpose the protection of society against the wilful or wanton destruction of human life. In viewing this problem the attention of the committee was attracted by the ineffectual character in many states of the medical participation in this effort as it is represented by the activities of the coroner or his official equivalent.

To orient the functions of coroners or medical examiners in the administration of criminal justice it would be well first to consider the problem as a whole. Except in a few special circumstances the taking of a human life through negligence or with intent constitutes one of the most serious offenses that it is possible to commit against organized society. The law defines the circumstances in which homicide is a crime, prescribes how and by whom deaths known or suspected to have resulted from homicide shall be investigated, how and by whom the person or persons suspected of guilt shall be arrested, charged and tried, and how and by whom they shall be punished if found guilty. The procedure by which the dictates of the law are complied with when homicide is known or suspected to have occurred is normally divided into two phases.

The first is inquestual and has for its purpose the acquisition and appraisal of evidence. The second is judicial and consists of a trial by jury of the person or persons who have been charged with the crime.

The initial fact-finding phase of the inquestual procedure is primarily medical and is activated by the finding of a dead body. Whose corpse is it? When did death occur? How was it caused? If it resulted from violence, is the nature of the fatal injuries such as to indicate the manner in which they were incurred? It is obvious that the police participation in such an investigation must often await and must always be integrated with the medical investigation. It is also apparent that the quality of justice depends on the promptness and competence with which this investigation is conducted.

According to the law throughout most of the United States, both the acquisition and the initial magisterial appraisal of evidence relating to deaths known or suspected to have resulted from homicide are the responsibility of the office of county coroner. The office of coroner was transplanted from England to North America in the early Colonial period. Originally, in England, the coroner was the conservator of the peace and since at that time little or no investigative help could be expected from the police or the medical profession the arrangement was probably a good one.

With the passing of the centuries various changes have occurred which make the ancient office of coroner with its combined medical and legal functions unsuited to participate effectively in the administration of justice. One such change responsible for the outmoding of the coroner's office as originally constituted is the development of law enforcement agencies as represented by the police and the office of public prosecutor. There now exists in every jurisdiction a police organization that is not only more competent than the coroner's office in acquisition of nonmedical evidence but also in the apprehension and arrest of criminals. There exists in every jurisdiction a public prosecutor whose qualifications are legal and whose duties are such that he is better fitted to look after the legal interests of the public in cases of suspected homicide than is the coroner. There exists in every jurisdiction an already established municipal, county or district court which is better constituted to conduct the magisterial functions of an inquest than is the coroner's court.

It is the opinion of this committee that a review of the various modifications of the office of county coroner now operating in the United States would be the best means of formulating plans

for improving those relationships between law and medicine that are concerned with the conduct of official investigations of the causes and circumstances of certain deaths in the interests of public welfare.

THE NAME OF THE OFFICIAL INVESTIGATOR, CORONER OR MEDICAL EXAMINER

In all or most jurisdictions of forty states[1] the responsible official is called the county coroner. In the following states some designation other than that of coroner is employed:

Maine, Medical Examiner.
Maryland, Medical Examiner.
Massachusetts, Medical Examiner.
New Hampshire, Medical Referee.
New Jersey, Medical Examiner in some jurisdictions.
New York, Medical Examiner in some jurisdictions.
Rhode Island, Medical Examiner.

COMMENT.—Obviously the name under which the medical investigator operates has little or no bearing on the effectiveness with which his public duties are discharged. If the law requires first that he be professionally competent and second that he have both the authority and the facilities for the conduct of such investigations as are required in the interest of public welfare, the name of his office is inconsequential.

DUTIES OF THE CORONER OR MEDICAL EXAMINER

In all states there are laws which provide that certain types of death shall be the subject first of an investigation to determine the causes and circumstances thereof, and second of a magisterial inquiry or inquest to determine what subsequent steps shall be taken in the interests of law enforcement.

Medical Duties.—It is invariably the duty of the coroner or his official equivalent to conduct an inquiry to determine the cause and circumstances of deaths known or suspected to have resulted from criminal or negligent acts. The law usually requires that he go to the place where the body lies and take immediate charge of it. As a rule the law states that he shall view the body and the premises where it lies. In addition to viewing the body he may be empowered by law to perform or to have performed an autopsy if he, his jury or the county attorney decrees such a procedure necessary.

It is invariably the intent of the law not only that the true cause of death be established with the greatest possible precision but also that all evidence pertaining to the circumstances thereof be acquired.

Number of Coroner's Cases per Unit of Population.—According to the annual reports of the director of the bureau of census, approximately 1 death in each 10 occurring in the United States results from a violent or unnatural cause. Of each 100 such deaths investigated it is found that approximately 80 result from accidents, 15 from suicide and 5 from homicide. In addition to the 10 per cent of all deaths that require official investigation because they are known or suspected to have resulted from unnatural or violent causes the medical examiners' reports of Massachusetts, New York City and Newark, N. J., indicate that an additional 10 per cent of each year's deaths result from causes so obscure that investigation sufficient to exclude causation by violence is essential to public welfare. Thus it appears that approximately 20 per cent of all deaths occurring in the registration area of the United States occur from causes or in circumstances such as to merit official inquiry.

Number of Official Autopsies Likely to Be Required in the Interests of Public Welfare.—In many states the law states that only such deaths shall be investigated as are known or suspected to have resulted from the criminal or negligent act of another person. In some instances viewing the body and questioning witnesses provide sufficient evidence that death resulted from natural causes. In rural communities, where the official investigator is likely to have ready access to relatively trustworthy sources of information, a large proportion of all deaths reported as having been due to obscure causes can be disposed of by viewing and questioning without the performance of an autopsy. In metropolitan districts, in which the investigator is less likely to have access to reliable sources of information, it is necessary to perform autopsies in a higher proportion of cases.

For each hundred thousand inhabitants it can be estimated that the medical duties of the coroner or medical examiner will include an inquiry and a view of the body in about 200 deaths per year. In urban areas the interests of public welfare will require the performance of autopsies in at least 20 to 25 per cent of all investigated cases, whereas in rural areas official autopsies in the interests of justice are likely to be necessary in between 10 to 15 per cent of the total number of medicolegal deaths investigated.

Legal Duties.—In all or most jurisdictions of forty-seven states the coroner or his equivalent has certain legal duties in addition to the medical functions described in the preceding paragraph. In thirty-seven states he is authorized or required to impanel a jury, subpena witnesses, administer oaths, take medical as well as nonmedical evidence, deliver a verdict, and he may issue a warrant for the arrest of the person or persons to be held for trial.

In Massachusetts the medical examiners' responsibilities are almost exclusively medical. In Maine, Rhode Island, Maryland, certain jurisdictions of New York, and Essex County, N. J., coroners have been replaced by medical examiners who have been relieved of most if not all of the coroner's magisterial duties.

Miscellaneous Duties.—The laws of the various states frequently require the coroner or his equivalent to discharge a variety of additional quasimedical or quasilegal duties. These vary from arranging for the burial of paupers to arresting the sheriff.

COMMENT.—There is no doubt that the law should provide for both medical and legal participation in the investigation of deaths suspected to have resulted from homicide. The former is a highly technical fact-finding procedure that can be discharged only by a properly qualified medical expert. The latter is a preliminary quasijudicial hearing of all evidence, medical and nonmedical, in order that the machinery of justice may be set in motion, and it should be conducted by a legally competent magistrate.

Every county or state government should provide for the existence of professionally competent official medical investigators, and it makes no difference whether they are called coroners or medical examiners. The duties of such officials should be medical and not legal. The magisterial duties for which the coroners are commonly held responsible should be transferred to other already existing public agencies whose duties and qualifications render them competent in such matters.

QUALIFICATIONS OF OFFICIALS RESPONSIBLE FOR THE INVESTIGATION OF DEATHS IN THE INTERESTS OF PUBLIC WELFARE

In Louisiana, Maine, Maryland, Massachusetts, Ohio, Rhode Island and Virginia the official held responsible for the instigation and direction of postmortem investigation when death is known or suspected to have resulted from criminal violence is required by state law to be a physician. Provisions for the official participation of a medically qualified investigator in the coroner's inquest exist in certain juisdictions of California, Connecticut, Minnesota, Michigan, Nebraska, New Hampshire, New Jersey, New York and Vermont, and perhaps in a few other localities.

In all or most jurisdictions of forty-one states[2] the coroner is not required by law to be a physician. In rural districts the office is frequently occupied by an undertaker. In many of the larger cities the office is held by a layman whose qualifications are neither medical, legal nor administrative.

COMMENT.—In counties in which the coroner is not a physician and does not regularly employ a physician in the conduct of inquests it is a reasonable inference that deaths by homicide commonly escape recognition, that scientific evidence essential to the administration of justice is regularly overlooked and that innocent persons are not infrequently charged with crimes that they did not commit.

1. In some or all jurisdictions of Alabama, Nebraska, Vermont and Washington the office of coroner has been abolished and its duties have been absorbed by other county officials.

2. All but Louisiana, Maine, Maryland, Massachusetts, Ohio, Rhode Island and Virginia.

It is obvious that the law should require that the office of coroner or medical examiner be occupied by a physician. It is equally obvious that he should either be a qualified pathologist or be required to employ the services of a qualified pathologist for the performance of autopsies.

Wherever doctors are responsible for the establishment and maintenance of organized medical facilities for the care of the sick, provision is almost invariably made whereby a physician who is skilled in the science of pathology is made responsible for the performance of autopsies. Without in any way detracting from the importance of autopsies performed for scientific or educational reasons it should be pointed out that only when an autopsy is medicolegal is it likely to have an immediate and direct effect on the life, liberty or property of some person. On the outcome of a medicolegal autopsy may depend the life or freedom of a suspected person. On the outcome of a medicolegal autopsy may depend the indemnification of a widow or the liability of an employer or an insurer. With such issues at stake it is strange indeed that only when an autopsy is performed in the interests of justice is it entrusted in many instances to some one lacking proper qualifications for its conduct.

In considering the precise nature of the qualifications that the law should require of official investigators, account should be taken of two facts. One is that not all types of medicolegal investigation require the same degree of specialized expertness on the part of the investigator. The other is that both the availability of and the need for specially trained expert pathologists differ according to the density of the population.

The preliminary investigation of any given death in the interests of public welfare requires that the body be viewed and that such information concerning the possible cause and circumstances of death that can be obtained from relatives, associates, physicians or others be collected and its medical significance appraised. It is not essential that this phase of the investigation be conducted by a skilled pathologist, although it is essential that the investigator be a qualified physician. In small towns and in rural areas where the services of a skilled pathologist are not immediately available the selection of a practicing physician or surgeon for the conduct of the preliminary phase of the investigation is usually both necessary and desirable.

In between 70 and 80 per cent of medicolegal deaths occurring in rural areas it is likely that adequate evidence from a legal standpoint will be obtained without the performance of autopsies. The law should provide, however, that if it is necessary to perform an autopsy the local medical investigator shall be required to employ the services of an experienced pathologist for its conduct.

In Maryland, local medical investigators (county medical examiners) are required to call on the state pathologist (chief medical examiner) or some person designated by him for the performance of medicolegal autopsies. In Vermont the duties of the coroner are exercised by justices and state's attorneys and, if an autopsy is deemed necessary, the law requires that it shall be performed by the pathologist of the state hygiene laboratory or under his direction. In Maine, Massachusetts and Michigan it is optional with the local medical examiner (or coroner) whether or not he shall call on a state pathologist for the performance of medicolegal autopsies. In Maine the state pathologist serves as an assistant to the attorney general and in Massachusetts as an assistant to the commissioner of public safety. In Michigan the consultation services of the medicolegal director of the state police are available to county coroners for the performance of medicolegal autopsies.

The advantage of specifying that certain pathologists shall be the official medicolegal consultants rather than that the local medical investigator may call any pathologist lies in the fact that competence in forensic pathology bears a certain direct relationship to experience. Other things being equal, the pathologist who performs an occasional medicolegal autopsy is less likely to be proficient in the acquisition of medicolegal evidence than one who is regularly engaged in such work.

In metropolitan areas the medical investigator is less likely to have personal access to reliable information regarding the death of any given person than is the case in the country or in small towns. Hence the medical investigator in the city must depend more on objective evidence and must consequently perform autopsies in a higher proportion of the deaths investigated by him. Furthermore, there are relatively few if any urban areas of more than 100,000 inhabitants in which the services of an experienced pathologist are not available. For these reasons the law should require that official medical investigators in cities of more than 100,000 inhabitants shall be experienced pathologists.

In New York City the medical examiner is required to "be a doctor of medicine and a skilled pathologist and microscopist." In Maryland the chief and assistant state medical examiners "shall have had at least two years' postgraduate training in pathology," whereas the deputy examiners who conduct investigations in rural districts but do not perform autopsies are practicing physicians and are not required to be trained in pathology.

LEGAL DEFINITION OF DEATHS WHICH SHALL BE THE SUBJECT OF OFFICIAL MEDICOLEGAL INVESTIGATION

In thirteen states[3] the coroner or his equivalent is authorized to investigate only such deaths as are supposed to have resulted from the criminal act of another person. Thus, for example, in Tennessee the law stipulates that only when "there is good reason to believe that such person came to his death by unlawful violence at the hands of some other person" shall an investigation be in order. In Michigan an investigation is justified when "there is good reason to believe that murder or manslaughter has been committed." In Nebraska and South Dakota an official inquiry can be made on the "dead bodies of such persons only as are supposed to have died by unlawful means."

In the remaining thirty-four states the laws pertaining to the investigation of deaths in the interests of public welfare are less restrictive. A variety of qualifying phrases has been introduced so that investigations can be instituted even though there is insufficient evidence to justify a positive assumption that death resulted from homicide. Thus such adjectives or phrases as "mysterious," "untimely," "sudden," "unnatural," "violent," "by casualty," "by accident," "by poisoning," "from obscure causes," "found dead," "unattended," "by suicide" are encountered. In many states the law requires that all or certain types of deaths occurring in institutions supported by public funds shall be the subject of official medicolegal inquiry. In certain states medicolegal investigation is prerequisite to cremation.

COMMENT.—In order to formulate a satisfactory law for defining the kinds of death that shall be the subject of an official medicolegal investigation, the purpose for which such investigations are conducted should be considered.

It is essential that the law provide for a mechanism by which deaths from homicide will not escape recognition. By restricting medicolegal investigations to deaths "supposed" to have resulted from criminal violence there are excluded from investigation many deaths which, although they have occurred under suspicious circumstances and from obscure causes, cannot actually be "supposed" to have resulted from the criminal act of another person. The most that can be said in many instances is that there is no evidence to indicate that death has resulted from natural causes and that the very absence of information may reasonably justify a suspicion if not a supposition that death has resulted from violence. In localities in which the law requires that there be positive evidence to support a supposition of homicide before an official investigation can be instituted, there is not the slightest doubt that many deaths by homicide escape recognition.

3. Wisconsin, West Virginia, Utah, Tennessee, South Dakota, Oregon, North Dakota, North Carolina, New York, Nebraska, Florida, Arkansas and Arizona. (In West Virginia the coroner is required to investigate deaths resulting from mine accidents as well as those in which "there is good cause to believe has been by some unlawful act, and not by casualty. . . . " In Oregon the coroner is authorized to investigate deaths by suicide in addition to the bodies of persons who have been killed or have suddenly died "under such circumstances as to afford a reasonable ground to suspect that his death has been occasioned by criminal means." In North Carolina it is the duty of the coroner to conduct an investigation whenever it appears that "the deceased probably came to his death by a criminal act or default of some person. . . .")

Of the various state laws that can be characterized as adequate the New Jersey statute is one of the best. According to it "When, in the county, any person shall die as a result of violence or by casualty or suicide, or suddenly when in apparent health, or when unattended by a physician, or within twenty-four hours after admission to a hospital or institution, or in prison, or in a suspicious or unusual manner, the police department of the municipality in which he died, the superintendent or medical director of the institution in which he died, or the physician called in attendance shall immediately notify the office of the chief medical examiner of the known facts concerning the time, place, manner and circumstances of the death. Immediately upon receipt of such notification the chief medical examiner, or an assistant medical examiner, shall fully investigate the essential facts. If necessary he shall go to the dead body and take charge thereof." This law would be improved by the incorporation of a provision requiring medicolegal investigation of deaths of persons whose bodies are to be cremated.

SOURCE OF AUTHORITY FOR THE PERFORMANCE OF MEDICOLEGAL AUTOPSY

In two states (Maine and Maryland) the authority for ordering the performance of an autopsy incident to the conduct of an official medicolegal inquiry rests with a medically qualified official.

In most jurisdictions of thirteen states (Louisiana, Massachusetts, New Hampshire, Ohio, Oregon, Vermont, Rhode Island, Utah, Alabama, Iowa, Nebraska, Washington and Virginia) the authority for ordering an autopsy rests with a state or county attorney, with a court, or with some nonmedical administrative body, other than that represented by the coroner's office.

In four states (Colorado, Florida, Georgia and Illinois) the law stipulates that an autopsy may, or shall only, be authorized by order of a coroner's jury.

In five states (Idaho, Mississippi, Montana, Nevada and New Mexico) the statutes are not explicit in the matter of who has the authority to order an official medicolegal autopsy.

In all or most jurisdictions of the remaining twenty-four states[4] the authority for ordering an autopsy rests with a county coroner who may or may not be a physician.

COMMENT.—In many instances the medical evidence required in the interests of justice is obtained without the necessity of performing an autopsy. Frequently, however, neither the inspection of the body nor information gained from witnesses is adequate for distinguishing between death from natural causes and death from violence. In such an event the person best qualified to give a medical opinion as to whether or not an autopsy should be performed is the medical investigator himself. So long as he is held responsible by the law to determine the cause of death he should have the authority to perform or have performed an autopsy when in his opinion such a procedure is indicated by the facts at hand. However, the medical investigator should be required to hold an autopsy if such an examination is requested by the public prosecutor.

The Maryland law is partially satisfactory in this respect in that it stipulates that, "If the cause of such death shall be established beyond a reasonable doubt, such medical examiner shall so report and file in his office. . . . If, however, in the opinion of such medical examiner, an autopsy is necessary the same shall be performed by the chief medical examiner, an assistant medical examiner, or by such competent pathologists as may be authorized by the chief medical examiner." The law would be improved if the second sentence was rephrased to read "If, however, in the opinion of such medical examiner or in the opinion of the state's attorney, an autopsy is necessary. . . ."

It should be borne in mind that an autopsy is often necessary even though the cause of death is obvious. It is regularly a valuable source of evidence pertaining to the circumstances of death and frequently to the identity of the assailant. Thus, the recovery of a bullet or a determination of the alcohol content of the victim's brain may provide important evidence even though the cause of death was apparent without autopsy.

4. Arizona, Arkansas, California, Connecticut, Delaware, Indiana, Kansas, Kentucky, Michigan, Minnesota, Missouri, New Jersey, New York, North Carolina, North Dakota, Oklahama, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, West Virginia, Wisconsin, Wyoming.

METHODS OF SELECTION OF OFFICIAL MEDICAL INVESTIGATORS

The methods by which coroners or their equivalents are selected in the United States fall into the following five general categories:

1. Periodic election by popular vote.
2. Patronage appointment.
3. Appointment by a municipal, county or circuit court.
4. Selection by a civil service commission on a basis of competitive examination.
5. Selection by a nonpolitical, self-perpetuating commission of experts on a basis of professional merit.

1. *Periodic Election by Popular Vote.*—In all or most jurisdictions of thirty-six states[5] the coroner or his equivalent is elected by vote of the general electorate for periods that vary between two and four years. In some states the coroner is elected on a partisan and in others on a nonpartisan ballot.

2. *Patronage Appointment.*—In some or all jurisdictions of at least eight states the coroner or medical examiner is appointed under some form of the patronage system as follows:

Connecticut: Coroners are appointed for three years by judges of the superior court on recommendation of the state's attorney. His duties are magisterial, and the law authorizes him to appoint a medical examiner who holds office at the pleasure of the coroner.

Maine: Medical examiners are appointed by the governor with the advice and consent of his council for a term of four years.

Massachusetts: Medical examiners are appointed by the governor with the advice and consent of his council for a term of seven years.

New Hampshire: Medical referees are appointed by the governor with the advice and consent of his council for a term of five years.

New Jersey: In certain jurisdictions medical examiners are elected by the Board of Freeholders.

New York: In certain jurisdictions medical examiners are appointed by the district attorney.

Rhode Island: Medical examiners are appointed by the attorney general and hold office at his pleasure.

Tennessee: Coroners are elected by justices of the peace.

3. *Appointment by a Court.*—In three states the coroner or his equivalent is selected by a court.

Vermont: A physician may be designated medical examiner, pro tem, by the magistrate of a county or municipal court.

Virginia: The coroner is appointed by the judge of a corporation or circuit court for three years.

West Virginia: The coroner is appointed by the county court to hold office at the pleasure of said court.

4. *Selection by Civil Service.*—In New York City medical examiners are appointed by the mayor from the civil service list on a basis of competitive examination. According to section 1570 of the Greater New York charter "The head of the office shall be called chief medical examiner. He shall be appointed by the mayor from the classified service and be a doctor of medicine and a skilled pathologist and microscopist." In certain jurisdictions of California, appointments to the coroner's office are made from civil service lists.

5. *Selection by Special Commission.*—In Maryland a state medical examiner system prevails and the medical examiner is appointed by a state board of postmortem examiners. The board is a self-perpetuating body of experts so constituted and with sufficient authority to insure the selection and maintenance in office of properly qualified investigators.

According to article 22 of the Annotated Code of Maryland:

SEC. 1. The Department of Post Mortem Examiners is hereby created and established. The head of said Department shall be a Commission, consisting of the Professor of Pathology of the University of Maryland, the Professor of Pathology of the Johns Hopkins University, the Director of Health of the State of Maryland, the Commissioner of Health of Baltimore City and the Superintendent of Maryland State Police. The members of said Commission shall serve without compensation and shall

5. Alabama, Arizona, Arkansas, California, Colorado, Delaware, Florida, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Texas, Utah, Washington, Wisconsin, Wyoming.

select one of its members as Chairman, and one as Vice Chairman, who shall act as Chairman in the absence or inability of the Chairman. (As amended, 1941, Laws of Maryland, chapter 6.)

SEC. 2. The said Commission is hereby authorized and directed to appoint three medical examiners, one to be known as Chief Medical Examiner, at an annual salary of $6,500, and the other two as Assistant Medical Examiners, at an annual salary of $5,000 each. The Chief Medical Examiner and the Assistant Medical Examiners shall be licensed Doctors of Medicine and shall have had at least two years' postgraduate training in pathology. The said Commission shall appoint, to such extent as may be authorized by the Board of Estimates of Baltimore City, such other professional or technical personnel, clerks and other employees as may be necessary for the proper administration of the Department and at such compensation as may be provided for by said Board of Estimates in the Ordinance of Estimates of Baltimore City. The salaries of said Examiners shall be included in the Ordinance of Estimates each year. Such other professional or technical personnel and the clerks and employees shall be appointed in accordance with the provisions of sections 268 to 284, inclusive, of the Baltimore City Charter (1938 Edition), known as the Merit System.

Nothing in this section shall be construed to prevent the Commission from employing the services of physicians on a contract basis for part-time service, as may be authorized by the Board of Estimates of Baltimore City. (As amended, 1941, Laws of Maryland, chapter 6.)

COMMENT.—The first three of the five selection methods enumerated are the ones most commonly employed in the United States and will hereafter be referred to as political. They share common faults in that none of them provide for selection on a basis of professional competence and all of them predispose to the periodic replacement of experienced and qualified public servants by inexperienced and unqualified persons.

The last two of the five selection methods enumerated, hereafter referred to as nonpolitical, provide for selection and retention in office on a basis of merit and tend to prevent those undesirable periodic dislocations of public service that are inevitable under the political methods of selection.

To appraise the relative merits of the political and nonpolitical methods for the selection of official medical investigators (coroner, coroner's physician, deputy coroner or medical examiner) it is necessary to consider for a moment the nature of the public service expected of them. They function as scientific, fact-finding agencies. Incompetence or partisanship on the part of such an official may be responsible for the nonrecognition of crime, for the nonprosecution of criminals, for the unjust prosecution of innocent persons and for miscarriage of justice in courts of civil law. Their functions are in no way policy forming.

There has been a growing recognition in this country of the fact that public servants whose duties are technical and not policy forming should be selected by different means than are employed for the selection of public servants whose duties include policy determination.

The former should be selected by some form of nonpolitical merit system, whereas it is both appropriate and essential to the survival of a constitutional democracy that public servants whose functions include policy determination be selected by one of the various political methods already enumerated. The attitude of the federal government toward the merit system for selection of public officials is embodied in the executive order of June 24, 1938 (7916) in which it was stipulated that all except (1) those positions already exempted by statute, (2) policy determining positions and (3) other positions which special circumstances require shall be exempted, shall be brought into the competitive classified civil service.

It is a fact that medical science participates less effectively in the administration of justice in the United States than it does in any comparable civilized country in the world. An important if not the principal cause of this deplorable condition is the fact that official medical investigators are selected in most states by political methods rather than by the merit system. The practice of selecting official medical investigators by direct vote of the electorate or by some form of political patronage has led to the systematic scrapping of invaluable experience, has placed persons in office who are not only inexperienced but not infrequently incompetent as well, has predisposed to partiality in the conduct of public business and has discouraged from entering public service the very kind of physician that should be engaged in this important type of work.

It is the opinion of this committee that the selection of coroners and medical examiners should be made under some form of the merit system rather than by popular vote or by political patronage.

COST OF INVESTIGATING DEATHS IN THE INTERESTS OF PUBLIC SAFETY

It may be assumed that it is the intent of the law in all states to provide a mechanism whereby deaths by criminal violence will not escape recognition and whereby deaths from natural causes or casualty will not lead to the erroneous assumption of homicide.

The annual per capita cost of this service to the taxpayers in the various communities from which such information is available varies from 0.3 to 9.3 cents. This variation in cost is due in part to differences in the statutory definition of the kind of procedure to be followed, in part to the extent to which the different official investigators attempt to comply with the true intent of the law, in part to geographic and population differences in the various communities, and in part to the amount of money allocated for this particular purpose.

An important factor in determining the per capita cost of maintaining a coroner's or medical examiner's office is the number of cases that the law requires to be investigated. The laws of some states are such that approximately 20 per cent of all deaths come under the purview of the coroner or medical examiner, whereas in others the laws are such that less than 5 per cent of the deaths require official investigation.

In some states the law restricts medicolegal investigation to deaths in which there are positive grounds for suspecting criminal violence. Such cases rarely constitute more than 5 per cent of the total number of deaths. In other states investigations are restricted to deaths supposed to have resulted from violence, both criminal or accidental. Deaths by violence constitute approximately 10 per cent of the total. In still other states the law requires that, in addition to deaths known or suspected to have resulted from violence, official inquiry shall be made in cases of unexpected death from obscure causes. In such jurisdictions approximately 20 per cent of all deaths become the subject of official investigation.

Other things being equal, the cost of the service is proportional to the number of deaths investigated. The per capita cost of investigating 20 per cent of all deaths should be several times as great as that of investigating 5 per cent. Although it is difficult to appraise the relative value of the services rendered under these different types of law, it is likely that the additional cost of investigating deaths from obscure causes and casualty is more than compensated by the information that is gained. Although it is not easy to assign a monetary value to a service that leads to the recognition of unsuspected crime and one that lessens the likelihood of innocent persons being unjustly charged with the responsibility for death, it may be assumed to be sufficiently great to offset the apparent economy of an unwisely restrictive enabling statute.

Another important factor in determining the cost of investigating deaths in the interests of public welfare is the professional qualification that the law requires of the official investigator. In those counties in which it is required by law that the investigative official be a qualified physician, it is to be expected that the cost of his services will be higher than in counties where this essentially medical duty is left to an unqualified layman. The fees for lay investigators are generally lower than the fees demanded by qualified medical investigators. Most of every tax dollar spent to pay an unqualified investigator is wasted so far as the acquisition of reliable medical information is concerned. Such a saving cannot be truly regarded as economical even though the primary cost is less than that of employing a physician.

COMPARATIVE COSTS OF CORONER'S AND MEDICAL EXAMINER'S OFFICE

The facts needed for the preparation of a comprehensive statistical survey of the annual costs of the various coroner and medical examiner offices throughout the United States are not available. However, the data secured from various coroners and medical examiners, county and state treasurers and certain state, municipal and academic bureaus concerned with the investigation of the costs of county and city government have provided the committee with information concerning certain representative types of communities.

The annual per capita cost of investigating deaths in the interests of public safety in various types of communities is shown in the accompanying table. It appears that the average cost of the coroner's office in cities is approximately the same as that of the office of medical examiner. There is little or no difference between the cost of the two systems in communities that are essentially rural. In the case of large cities an examination of available budgets indicates that a large proportion of the total expense of the coroner's office represents the costs of its various administrative and quasilegal activities with a relatively small outlay for medical and other technical services. In cities operating under the medical examiner system the reverse is the case and the medical and technical costs constitute a larger part of the total budget.[6]

It should be borne in mind that the figures do not represent different costs of the same kind of public service. It is the undocumented impression of the committee that there is relatively little correlation between the amount of money spent and the value of the public service rendered. However, it is the impression of the committee that a per capita cost of between 2 and 3 cents per annum is the least figure for which any community can expect to maintain an adequate public agency for investigating deaths. An annual per capita cost of between 5 and 6 cents more nearly represents the amount required to insure an adequate investigative service.

Comparative Cost of Coroner and Medical Examiner Systems

Coroner System			Medical Examiner System		
Metropolitan (City or County)	Population (in Thousands)	Per Capita Cost (in Cents)	Metropolitan (City or County)	Population (in Thousands)	Per Capita Cost (in Cents)
Cook County, Chicago	4,063	5.2 (1940)	New York	7,450	2.5 (1942)
Los Angeles County	2,785	2.1 (1941)	Suffolk County, Boston	863	5.4 (1940)
Wayne County, Detroit	2,015	4.6 (1941)	Baltimore	260	2.7 (1940)
Philadelphia	1,930	9.3 (1943)			
Allegheny County, Pittsburgh	1,400	7.0 (1942)			
Cuyahoga County, Cleveland	1,200	3.2 (1940)			
St. Louis	816	4.9 (1940)			
San Francisco	630	9.4 (1940)			
Urban and Rural (County)			Urban and Rural (County)		
Antrim, Mich.	10	1.3 (1931)	Calvert, Md.	9	3.2 (1942)
Cass, Mich.	22	1.0 (1931)	Garrett, Md.	20	2.5 (1942)
Iron, Mich.	21	3.4 (1931)	Howard, Md.	16	3.7 (1942)
Kent, Mich.	240	3.4 (1931)	Kent, Md.	14	1.9 (1942)
Luce, Mich.	6	1.9 (1931)	Queen Anne, Md.	15	3.4 (1942)
Roscommon, Mich.	2	3.3 (1931)	St. Mary, Md.	15	1.6 (1942)
Itaska, Minn.	33	1.5 (1941)	Somerset, Md.	23	2.5 (1942)
Jackson, Minn.	17	1.0 (1941)	Barnstable, Mass.	39	2.3 (1938)
Kanabec, Minn.	10	0.4 (1941)	Berkshire, Mass.	121	1.5 (1938)
Kandiyoki, Minn.	17	1.4 (1941)	Dukes, Mass.	6	1.9 (1938)
Kittson, Minn.	10	0.3 (1941)	Franklin, Mass.	52	1.5 (1938)
Koochiching, Minn.	17	1.1 (1944)	Hampshire, Mass.	75	1.6 (1938)
Lac Qui Parle, Minn.	16	1.6 (1941)	Nantucket, Mass.	4	2.1 (1938)
Lake, Minn.	7	6.0 (1941)	Hampden, Mass.	334	2.2 (1938)

MODEL LEGISLATION

The kind of laws to be enacted will vary according to whether the office is (1) to be kept strictly on a county basis without being integrated with a state laboratory service, (2) to be on a county basis but integrated with a state laboratory service and (3) to be a function of state rather than county government.

Regardless of the jurisdictional status of the office (state or county), the laws should provide:

1. That the official investigator (coroner or medical examiner) shall be responsible for determining the cause of death and such medical or other information from an examination of the body that may indicate the manner of death.

2. That it shall be the duty of a magistrate of a county or municipal court to hold an inquest if in the opinion of the official investigator or the county attorney such a procedure is indicated.

3. That it be stipulated that the official investigator shall be a qualified physician and that he shall be selected and retained in office under some form of the merit system rather than by political preference.

4. That the official investigator shall be notified when in his county (or jurisdiction) any person shall die of violence or suddenly while in apparent health or from obscure causes or when unattended by a physician or in any unusual or suspicious manner, or when in his county or jurisdiction the body of any dead person is to be cremated. Immediately on receipt of such notification the official investigator shall go to the place where the body lies and take charge of it. He shall then and there make a written description of the body and the premises, which report, together with an opinion regarding the cause and manner of death, he shall have copied and within seven days give one copy to the county attorney.

5. That, if in the opinion of the official investigator or the county or state's attorney it is in the interests of public welfare to perform an autopsy on the body of a person whose death occurs under the purview of the law, such an examination shall be performed or caused to be performed by the official investigator.

6. That an official autopsy may be performed by the official investigator if he is a qualified pathologist and, if not, the official investigator shall engage the services of a qualified pathologist for the performance of such an autopsy.

7. That the official investigator may, within the limits of the funds supplied his office by the county budget commissioner, engage the services of a toxicologist to assist in the investigation of the cause or circumstances of any death coming within his purview.

8. That there be created (for the benefit of communities not already supplied with such facilities) a state consulting laboratory having professional and technical facilities for assisting official investigators in the conduct of pathologic and toxicologic investigations on the bodies of persons whose deaths come under the purview of the law.

CONCLUSIONS

On a basis of (*a*) a survey of the various state laws that define the manner in which medical knowledge and skill shall be utilized in the administration of criminal justice through the agency of the coroner or medical examiner, (*b*) consultation with the American Bar Association's Committee on Medico-Legal Problems and (*c*) consultation with various experts in the fields of legal medicine, law and law enforcement, your committee has come to the following conclusions:

1. That, throughout most of the country, medicine participates less effectively in the administration of justice in the United States than it does in any comparable country in the world.

6. Thus in Boston (Suffolk County) the total cost of investigating deaths in the interests of justice is approximately $47,000 per annum. Over 90 per cent of this amount is spent by the office of medical examiner, less than 10 per cent is required for the holding of inquests. The latter expenditure includes witness fees, clerk fees, and the estimated proportion of magistrate's time devoted to the holding of inquests.

2. That the ineffectual manner in which medical knowledge and skill are utilized in the administration of justice in many jurisdictions of the United States undoubtedly predisposes to:

(*a*) The nonrecognition of murder.
(*b*) The unjust accusation of innocent persons.
(*c*) The improper evaluation of medical evidence bearing on the circumstances in which fatal injuries were incurred.
(*d*) Failure to acquire medical evidence which would be useful in the apprehension of criminals.
(*e*) Failure to acquire medical evidence essential to the administration of civil justice.
(*f*) Ignorance of certain otherwise preventable hazards to public health, and
(*g*) The impairment of the value of vital statistics.

3. That state and county medical societies should examine the laws that relate to the office of coroner or medical examiner in their respective communities with a view to securing such remedial legislation as may be desirable.

4. That consultation facilities should be made available through the Bureau of Legal Medicine and Legislation whereby the authorized representative of any state or county medical society may secure advice regarding the kind of remedial legislation pertaining to the office of coroner or medical examiner that would best serve the needs of the community in question.

Grateful acknowledgment is made to Hubert W. Smith, LL.B., M.D., for his assistance in searching out and compiling the statutes of the various states which refer to the establishment and function of coroners or medical examiners.

Respectfully submitted.

ALAN R. MORITZ, Chairman.
EDWARD R. CUNNIFFE.
J. W. HOLLOWAY JR.
HARRISON S. MARTLAND.

Report of the Reference Committee on Rules and Order of Business

Dr. William R. Brooksher, Chairman, presented the following report, which was adopted on motion of Dr. Brooksher, seconded by Dr. Arthur J. Bedell, Section on Ophthalmology, and carried:

Your Reference Committee on Rules and Order of Business has surveyed the reports and resolutions to be presented to this session of the House of Delegates. These are numerous and consider matters of vital importance. Several of these resolutions and reports deal with the functions of the American Medical Association itself and should preferably be considered in executive session so as to be reflected to the public only after final deliberation and action by the House of Delegates.

Your reference committee would recommend therefore the following procedures:

1. That all resolutions concerned with the functions of the Board of Trustees and of the headquarters office of the American Medical Association be presented to the House of Delegates by title only and referred by the Speaker to the Reference Committee on Executive Session.

2. That the House of Delegates meet in executive session at 2 p. m. Tuesday, June 13, at which time the resolutions so referred will be read in full together with the report of the Reference Committee on Executive Session.

3. The attention of the House of Delegates is called to the number of elections now required for this session of Thursday, June 15. In addition to such elections as have previously been held, six members are to be elected to the Council on Medical Service and Public Relations according to the plan designated in the By-Laws. The Board of Trustees is instructed by the By-Laws to submit three nominees according to geographic distribution for each vacancy for varying terms of one, two and three years. To facilitate this election, which otherwise might be unduly prolonged, your Reference Committee on Rules and Order of Business recommends that the Board of Trustees be requested to prepare a ballot containing the entire list of eighteen nominees as provided in the By-Laws, this list to be submitted to the House of Delegates in regular order and that each delegate indicate by voting for one person in each geographic group in order of his preference his choice for these six vacancies and that the two nominees receiving the most votes be elected to the three year term, the two receiving the second largest number of votes to be elected to the two year term and the two receiving the third largest number of votes to be elected to the one year term.

W. R. BROOKSHER, Chairman.
T. F. THORNTON.
F. L. LOVELAND.
T. A. FOSTER.
E. N. EWER.

NEW BUSINESS

Proposed Amendment to the Constitution and By-Laws Dealing with Apportionment of Delegates

Dr. Thomas A. Pitts, South Carolina, presented the following resolutions, which were referred to the Reference Committee on Amendments to the Constitution and By-Laws:

WHEREAS, The By-laws of the American Medical Association provide that the total membership of the House of Delegates of the American Medical Association shall not exceed 175; and

WHEREAS, The apportionment of delegates of the House of Delegates of the American Medical Association is made on the basis of membership alone with each constituent organization entitled to a minimum of one delegate; and

WHEREAS, Such an apportionment does not take into consideration the civilian population which the constituent associations serve or the geographic size of the various states; and

WHEREAS, Under the present method of apportionment one state (New York) has two more delegates than eighteen state societies (Arizona, Delaware, District of Columbia, Idaho, Kansas, Maine, Montana, Nevada, New Hampshire, New Mexico, North Dakota, Oregon, Rhode Island, South Carolina, South Dakota, Utah, Vermont, Wyoming) combined, and two states (Pennsylvania and Illinois) with a combined civilian population of 17.8 million are entitled to the same number of delegates as ten states (West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Tennessee) with a civilian population of 25.4 million; and

WHEREAS, The present method of apportionment of delegates is based on the apportionment of representatives in the United States House of Representatives but does not take into consideration the method of representation in the United States Senate; be it

Resolved, That the house of delegates of the South Carolina Medical Association petition the House of Delegates of the American Medical Association to amend its Constitution and By-Laws so that the minimum number of delegates to which each constituent organization is entitled shall be two instead of one; and be it further

Resolved, That in order to accomplish this result chapter I, section 3 of the By-Laws of the American Medical Association be amended to read as follows:

SEC. 3. APPORTIONMENT OF DELEGATES.—At the annual session of 1925, and every third year thereafter, the House of Delegates shall appoint a committee of five on reapportionment, of which the Speaker and the Secretary shall be members. The committee shall apportion the delegates among the constituent associations in accordance with Article 5, Section 3, of the Constitution, and in proportion to the membership of each constituent association as recorded in the office of the Secretary of the American Medical Association on April 1 of the year in which the apportionment is made; *provided*, that the minimum number of delegates to which each constituent association shall be entitled shall be not less than two. This apportionment shall take effect at the next succeeding annual session and shall prevail until the next triennial apportionment, whether the membership of the constituent association shall increase or decrease.

Resolutions on Maternal and Infant Care for Wives and Infants of Enlisted Men

Dr. Arthur R. McComas, Missouri, presented the following resolutions, which were referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, The program now in operation for maternal and infant care for wives and infants of enlisted men in the four lower grades is unsatisfactory to the medical profession and in many instances to the enlisted men and their families; and

WHEREAS, The emergency provisions for the carrying on of the program as now in operation expire June 30, 1944; be it therefore

Resolved, That the council and house of delegates of the Missouri State Medical Association recommend that the medical profession cooperate with the present program until its expiration date on June 30, 1944 but also urge Congress to abandon the program as now constituted on that date; and be it further

Resolved, That under any new program after June 30, 1944 the benefits be designated supplemental aid and take the form of an allotment for medical, hospital, maternity and infant care, similar to the allotments already provided for the maintenance of dependents, leaving the actual arrangements with respect to fees to be fixed by mutual

agreement between the enlisted man and the enlisted man's wife and the physician of her choice; and be it further

Resolved, That the American Medical Association be urged to present to the appropriate committees of Congress a concrete plan embodying this principle, to the end that the present and ultimate best interests of the wives and infants of men in service be served during the present emergency; and be it further

Resolved, That the members of the Missouri State Medical Association will render medical service to the wives and children of enlisted men in the four lower grades for the period of the war emergency regardless of the final decision by Congress or the Children's Bureau as to the method of payment.

Resolutions on Tuberculosis Control

Dr. Arthur R. McComas, Missouri, presented the following resolutions, which were referred to the Reference Committee on Registration and Public Relations:

WHEREAS, It appears that the problem of tuberculosis control is one that is increased in time of war; and

WHEREAS, Tuberculosis is no respecter of geographic boundaries; and

WHEREAS, The problem of supervision and care of the migratory tuberculous patient is becoming more acute, owing to the movement of populations at the present time and may be anticipated to be even greater in the period of industrial conversion; and

WHEREAS, The returned tuberculous veteran of the armed forces is anticipated as an additional burden to the control machinery; and

WHEREAS, Existing public and private health machinery is already overtaxed; and

WHEREAS, A method of implementation of the Tuberculosis Control Section of the United States Public Health Service has been made in the form of proposed congressional action and appropriation approved by the National Tuberculosis Association; and

WHEREAS, The state and territorial health officers have approved the proposition; and

WHEREAS, The Tuberculosis Committee of the Missouri State Medical Association has approved this legislation; be it therefore

Resolved, That the house of delegates of the Missouri State Medical Association shall approve this resolution and shall instruct its delegates to the American Medical Association to request that body also to approve and recommend the passage of S. 1851 and H. R. 4615 and urge the Congress of the United States to enact these bills into law; and be it further

Resolved, That the representatives and the senators of the state of Missouri be informed of this approval and be urged to vote favorably.

Resolutions on Changing the Structure and Enlarging the Field of Activities of the American Medical Association

Dr. T. K. Gruber, Michigan, presented by title resolutions, which were referred to the Reference Committee on Executive Session.

Proposed Amendments to By-Laws, Chapter XII, Sections 2 and 3

Dr. C. B. Conklin, District of Columbia, presented the following proposed amendments to the By-Laws, chapter XII, sections 2 and 3, which were referred to the Reference Committee on Amendments to the Constitution and By-Laws:

Section 2 of chapter XII of the By-Laws of the American Medical Association is hereby amended by the addition thereto of the following proviso:

Provided further, however, that an associate member of the Medical Society of the District of Columbia, who is otherwise qualified under the By-Laws of the American Medical Association, and who on the prescribed form shall apply for Fellowship and subscribe to THE JOURNAL, paying the annual Fellowship dues for the current year, shall be inducted into the Association as a Fellow unless the application is disapproved by the Judicial Council.

Section 3 of chapter XII of the By-Laws of the American Medical Association is hereby amended by the addition thereto of the following proviso:

Provided, further, however, that associate membership in the Medical Society of the District of Columbia shall constitute membership within the meaning of this section.

Proposed Amendments to the Constitution and By-Laws Referring to Fellowship for Medical Officers of Veterans Facilities

Dr. A. W. Adson, Minnesota, presented for the Council on Medical Service and Public Relations the following proposed amendments to the Constitution and By-Laws, which were referred to the Reference Committee on Amendments to the Constitution and By-Laws:

WHEREAS, Medical officers of the Veterans Facilities have lost their membership in county and state medical associations because of reassignments in states in which they hold no medical licensure and thus are unable to transfer membership; and

WHEREAS, Other medical officers of the Veterans Facilities lost their membership in county and state associations through transfers and without maintaining their original county and state society membership; and

WHEREAS, A loss of membership in county and state medical associations automatically deprives medical officers of the Veterans Facilities of membership and Fellowship in the American Medical Association; and

WHEREAS, Many of the medical officers of the Veterans Facilities who have been members of county and state medical societies but have lost their membership through transfers of location desire to be affiliated with the American Medical Association as medical officers of the Army, Navy and the Public Health Service are permitted to do; therefore be it

Resolved, That chapter XII, section 2, of the By-Laws on Membership and Fellowship be amended by the addition of paragraph 3,

"Medical officers of the Veterans Facilities of the United States may be elected to Fellowship in the American Medical Association by application and certification that they were members in good standing in their county medical society at the time of their reassignment within the Veterans Facility and on approval of the Judicial Council of the American Medical Association. Their Fellowship shall be continued as provided under paragraph 2 of chapter XII, section 2"; be it further

Resolved, That the Constitution of the American Medical Association be amended as follows:

Add to article 5, section 2—House of Delegates, Composition, the words "and Veterans Facility," following the words "Public Health Service," and add the words "and Medical Director of Veterans Facility," following the words "respective department."

Amend article 5, section 3, to read "176" instead of "175," and add the words "Medical Veterans Facility" following the words "Public Health Service."

Resolution on Inauguration and Expansion of Voluntary Group Medical Service Plans

Dr. H. A. Luce, Michigan, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, Social change after the present war must be anticipated; and

WHEREAS, Proposals to effect sweeping changes in medical practice in this country are now being advocated by persons in politics and government and by lay groups; and

WHEREAS, Leadership in matters affecting medicine should be assumed by the medical profession, which is best qualified by training and experience to understand these important matters; and

WHEREAS, Voluntary group medical care plans have had successful experiences in several states for a number of years and are preferred by both the people and the medical profession to compulsory government controlled and operated medical service; therefore be it

Resolved, That the American Medical Association effect leadership in encouraging and aiding state medical societies immediately to inaugurate voluntary prepayment medical service plans, or to expand as rapidly as possible existing programs, in order to fit community needs, to bring service to all the people, and to prevent waste and confusion in medical practice which will result from a government operated compulsory system.

Resolutions on Creation of Board of General Practice

Dr. H. A. Luce, Michigan, presented the following resolutions, which were referred to the Reference Committee on Medical Education:

WHEREAS, A large part of the membership of the American Medical Association is engaged in the general practice of medicine, and the members are members of the Sessions for the General Practitioner in the Section on Miscellaneous Topics heretofore constituted to encourage and further the study and elevation of the standards of general practice; and

WHEREAS, By reason of present circumstances and conditions, many physicians have entered the armed forces without opportunity or facility to supplement and advance their professional education by preceptorship, residencies and otherwise; and

WHEREAS, Means and facilities by refresher courses and seminars and otherwise should be made available to all general practitioners to refresh, advance and improve their capacity and proficiency in the practice of medicine; and

WHEREAS, Standards and requirements for membership in the general practice sessions and norms for hospital staff admission should be prescribed and established; and

WHEREAS, A board of general practice for the regulation, control, supervision and gradation of membership in the general practice sessions should be constituted; be it

Resolved, That there shall be and is hereby constituted a Board of General Practice of the general practice sessions of the Association, which shall consist of seven members of the American Medical Association, all of whom shall be qualified and recognized general practitioners; that said Board of General Practice shall be duly organized as a corporate body; and be it further

Resolved, That said Board of General Practice shall be and is vested with all powers necessary for the regulation, control, supervision and gradation of the general practice sessions.

Resolution on Creation of Department of Public Health

Dr. Dwight L. Wilbur, California, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, The health and vigor of its people is the greatest asset of any nation; and

WHEREAS, Those agencies of our federal government that are concerned with the prevention of disease and the instruction of the people in matters of health and hygiene are now divided and scattered throughout several departments of the government without proper coordination of effort; and

WHEREAS, Unification of all governmental effort in the field of public health under a single head, with cabinet rank, would result in greater efficiency and in increased benefit to the American people; be it

Resolved, That the House of Delegates of the American Medical Association requests the Congress of the United States to create a Department of Public Health, the head of which department shall be a cabinet officer, and to assign to such department all health activities of the federal government.

Resolution Approving Transfer of Children's Bureau of Department of Labor to the United States Public Health Service

Dr. Dwight L. Wilbur, California, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

Resolved, That the House of Delegates of the American Medical Association fully approves and endorses bill H. R. 4663, recently introduced in the House of Representatives of the United States by Congressman Miller of Nebraska, under the terms of which the functions of the Children's Bureau of the Department of Labor are transferred to the United States Public Health Service.

Resolutions on Survey of Public Opinion

Dr. Dwight L. Wilbur, California, presented the following resolutions, which were referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, A suitable and proper survey of public opinion regarding the attitude toward organized medicine, medical care and proposed medical legislation would be of inestimable value in determining the policies and activities of the medical profession toward these problems; and

WHEREAS, The Council on Medical Service and Public Relations, which was established by this House of Delegates in 1943, has indicated that among its policies is the desirability of widespread distribution of the benefits of medical science and the encouragement of the evolution in the methods of administering medical care; be it

Resolved, That a contract for a suitable and proper survey of public opinion regarding its attitude toward organized medicine, medical care and proposed medical legislation be undertaken by the Council on Medical Service and Public Relations; and be it further

Resolved, That an analysis of such information obtained by a qualified corps of experts outside of the American Medical Association be made; and be it further

Resolved, That the information and instruction obtained through such surveys and analyses be properly used by the Council on Medical Service and Public Relations and be not discarded, with the end in view of molding public opinion into its proper form.

Resolution on United Public Health League

Dr. Dwight L. Wilbur, California, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, There is a growing insistent demand from physicians throughout the entire United States for an active, practical representation in Washington, D. C., to present to members of Congress and government departments the views of practicing physicians on pending public health and medical legislation and in turn to relay to physicians pertinent information from our national capital; and

WHEREAS, The action of the Council on Medical Service and Public Relations of the American Medical Association in establishing in Washington an office of "Medical Economic Research" is laudable but has not as yet met the practical political demands in present day Washington; and

WHEREAS, The United Public Health League has established an effective bureau in Washington on behalf of practicing physicians; and

WHEREAS, The membership of the United Public Health League is composed of members of the American Medical Association, and the United Public Health League is in reality a federation of state medical associations united for common effort in the economic and political fields, not infringing on the splendid scientific work of the American Medical Association nor acting contrary to its policies; now therefore be it

Resolved, That the House of Delegates of the American Medical Association endorses the United Public Health League as a vehicle for meeting the demands of the rank and file membership of the American Medical Association in the economic and political fields.

Resolution on Emergency Maternal and Infant Care

Dr. Dwight L. Wilbur, California, presented by title only, since the matter is covered in another resolution, a resolution dealing with Emergency Maternal and Infant Care, which was referred to the Reference Committee on Legislation and Public Relations.

Resolution on Secretary of American Medical Association

Dr. Dwight L. Wilbur, California, presented by title a resolution dealing with Secretary of the American Medical Association, which was referred to the Reference Committee on Executive Session.

Resolution on Editor of the Journal of the American Medical Association

Dr. Dwight L. Wilbur, California, presented by title a resolution dealing with the Editor of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, which was referred to the Reference Committee on Executive Session.

Resolution on Dr. Horace Wells of Hartford, Conn.

Dr. James R. Miller, Connecticut, presented the following resolution, which was referred to the Reference Committee on Miscellaneous Business:

WHEREAS, 1944 marks the centenary of the discovery by Horace Wells of Hartford, Conn., of a practical method of anesthesia by nitrous oxide; and

WHEREAS, The American Medical Association in session in Washington in May 1870 passed the following resolution: "*Resolved*, That the honor of the discovery of practical anesthesia is due to the late Dr. Horace Wells of Connecticut"; be it therefore

Resolved, That the House of Delegates of the American Medical Association commends and endorses the celebration during 1944 of the centenary of the discovery by Dr. Horace Wells of Hartford, Conn., of a practical method for human anesthesia during surgical operations.

Motion on Wagner-Murray-Dingell Bill

Dr. J. W. Irwin, Montana, presented the following motion of the Silver Bow (Montana) Medical Society, which was referred to the Reference Committee on Legislation and Public Relations:

At a regular meeting of the Silver Bow County Medical Society held April 26, 1944 the following motion was made, seconded and carried:

Moved, That the Silver Bow County Medical Society recommends that the delegates of the Medical Association of Montana to the House of Delegates of the American Medical Association work for and endeavor to have the American Medical Association take control, not only in scientific leadership, but also in national political questions, including lobbying against the Wagner-Murray-Dingell bill, either directly through its officers or by arrangement with the National Physicians Committee for the Extension Medical Service, or Association of American Physicians and Surgeons of Lake County, Indiana, and take all steps necessary to enable such a program to be carried out.

Resolution on Political and Economic Interests of Physicians

Dr. J. W. Irwin, Montana, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, The health of the American people is jeopardized by the critical situation in which the medical profession now finds itself; now, therefore, be it

Resolved, That the delegate of the Medical Association of Montana to the House of Delegates of the American Medical Association be instructed to urge that some organization be chosen to represent the political and economic interests of the physicians of America before the Congress of the United States and people of America. It is felt that such an organization should be supplementary to the American Medical Association rather than an entirely independent and, perhaps, rival organization.

Resolution Opposing Training of Nonmedical Personnel in Audiometry

Dr. G. Henry Mundt, Illinois, presented the following resolution, which was referred to the Reference Committee on Medical Education:

WHEREAS, There is an effort being made to establish courses in audiometry for nonmedical personnel; and

WHEREAS, There is no bona fide reason for the establishment of these courses, thus producing another group of quasi-medical personnel; be it

Resolved, That the American Medical Association is opposed to the training of nonmedical personnel in audiometry.

Resolutions on Council on Medical Service and Public Relations

Dr. James R. Miller, Connecticut, presented by title resolutions dealing with the Council on Medical Service and Public Relations, which were referred to the Reference Committee on Executive Session.

Resolution on Shortage of Trained Nurses

Dr. S. E. Gavin, Wisconsin, presented the following resolution, which was referred to the Reference Committee on Medical Education:

This resolution calls attention to the shortage of trained nurses and to the fact that in many communities it is felt that training requirements are too high for ordinary needs, this, in part, accounting for current difficulties.

It is pointed out that states themselves cannot successfully change their laws without similar action in other states, because of reciprocity arrangements for licensure. It suggests that the whole subject is worthy of consideration by the Council on Medical Education and Hospitals.

WHEREAS, For many years there has been a continuous and meritorious effort to elevate the requirements for nursing licensure in the several states, which, however, being directed toward the establishment of a qualified and recognized field of nursing, provided with such standards as to assure the maximum protection of public health, have resulted inevitably in decreasing the number of potential enrollees in the various nursing schools; and

WHEREAS, This condition has developed to such an extent during the artificial conditions resulting from the war effort that the United States government has found it necessary to provide a method of stimulating enrolment in nursing schools through establishment of the United States Cadet Nurse Corps; and

WHEREAS, These efforts in the field of nursing education are frequently asserted to be carried to an unpractical extreme, thus giving rise to the condition with which the country is now faced; and

WHEREAS, There remains a current shortage of nurses and, because of the reciprocal arrangements between states, an inability exists on the part of the individual states, as such, to make changes in their laws as would facilitate the enrolment and graduation of trained nurses; and

WHEREAS, It is proper, logical and consistent that the American Medical Association should encourage the initiation of studies of the licensure of those proposing to engage in ancillary fields to the practice of medicine and surgery; now, therefore, be it

Resolved, That the House of Delegates of the American Medical Association request the Council on Medical Education and Hospitals to engage in a cooperative study of the nursing education requirements of the several states, the problem as it exists both prior to and since the war emergency, and in cooperation with the several associations concerned to suggest such changes for endorsement by national organizations as may seem consistent with good public health protection and so designed as to increase the availability of nurses throughout the country.

Resolution on Reapportionment of Delegates

Dr. E. N. Roberts, Idaho, submitted the following resolution, which was referred to the Reference Committee on Amendments to the Constitution and By-Laws:

Be it Resolved, By the House of Delegates of the Idaho State Medical Association in session May 22, 1944, that we petition the House of Delegates of the American Medical Association to amend the Constitution and By-Laws so that the minimum number of delegates to which each state is entitled shall be two instead of one.

Resolution to Transfer Bureau of Emergency Maternal and Infant Care Program to Department of Public Health

Dr. E. N. Roberts, Idaho, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

Be it Resolved, By the House of Delegates of the Idaho State Medical Association in session May 22, 1944, that we recommend the transfer of the Bureau of Emergency Maternal and Infant Care Program from the Department of Labor to the Department of Public Health and ask that the American Medical Association actively foster such action by all means within its power.

Resolution on Washington Office

Dr. E. N. Roberts, Idaho, presented without reading a resolution on a Washington Office, which was referred to the Reference Committee on Executive Session.

On motion, duly made, seconded and carried, the House recessed at 2:50 p. m. to meet at 9:30 a. m. Tuesday, June 13, 1944.

(To be continued)

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Changes in Status.—H. R. 4615 has been ordered favorably reported by the House Committee on Interstate and Foreign Commerce, a bill to establish, for the investigation and control of tuberculosis, a division in the United States Public Health Service. H. R. 4899 has passed the Senate, making appropriations for the Department of Labor, the Federal Security Agency and related independent agencies for the fiscal year ending June 30, 1945. As passed by the Senate, this bill appropriates the sum of $42,800,000 for grants to states to provide obstetric and pediatric care to the wives and infants of servicemen, including those of army aviation cadets. Not more than 3 per cent of the sum appropriated may be allotted to the states for administrative expenses. The bill effects no change in the manner in which this program has been carried out in the past. H. R. 4967 has passed the House, making appropriations for the Military Establishment for the fiscal year ending June 30, 1945. The bill provides that no appropriation contained in it "shall be available for any expense incident to educating persons in medicine (including veterinary) or dentistry if any expense on account of their education in such subjects was not being defrayed out of appropriations for the Military Establishment for the fiscal year 1944 prior to June 7, 1944."

Bills Introduced.—S. 1989, introduced by Senator Barkley, Kentucky, provides for water pollution control activities in the United States Public Health Service. H. R. 5021 and H. R. 5022, introduced by Delegate Diamond, Alaska, propose to establish a veterans' hospital, respectively, in central Alaska and southeastern Alaska. H. R. 5027, introduced by Representative Miller, Missouri, proposes to amend the Selective Training and Service Act so as to provide that there shall be deferred from training and service in the land and naval forces of the United States, as necessary to the maintenance of the national health, safety and interest, in each calender year not less than six thousand medical students. The term "medical student" is defined by the bill to mean (1) a person who is enrolled in, and who is pursuing a course of instruction prescribed for the degree of doctor of medicine at an accredited medical college; or (2) a person who is pursuing a regular course of instruction at an accredited college or university (satisfactory completion of which will make such person eligible for enrolment in an accredited medical college) with the bona fide intention of entering an accredited medical college and pursuing and completing the course of instruction prescribed for the degree of doctor of medicine.

OFFICIAL NOTES

DOCTORS AT WAR

Radio broadcasts of Doctors at War by the American Medical Association in cooperation with the National Broadcasting Company and the Medical Departments of the United States Army and the United States Navy has been on the air each Saturday (3:30 Central war time, 2:30 Mountain war time and 1:30 Pacific war time).

The title for the final program, June 24, is "Serving all Services."

Honor Citations and Service Melodies

Owing to the uncertain state of communications consequent on fast shifting military fronts, it has been impossible to arrange the Doctors at War broadcast scheduled for July 1, on which it was planned to present Army and Navy medical officers by short wave from actual war theaters. Doctors at War, therefore, will close with the broadcast of June 24. This will be a special broadcast emphasizing the services of doctors to all branches of the armed forces. It will include military music by the N. B. C. orchestra, a male chorus and a contralto soloist. The program and the series will close with a radio "taps" ceremony honoring physicians who have given their lives in the service of the men and women of our armed forces.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ARKANSAS

Narcotic Violation.—On May 10 Dr. James Ellis Cox, Rosston, was convicted in the U. S. District Court of Texarkana of a violation of the federal narcotic law. Dr. Cox was sentenced to imprisonment for a term of eighteen months.

Proposed Hollingsworth State Hospital System.—A state controlled hospital program calling for an investment of about $15,000,000 in five general hospitals, seventy clinics and emergency hospitals and a research laboratory and involving several new taxes on natural resources may go to decision of the voters in the general election November 7, according to the New York *Times*, May 28. Walter Hollingsworth of Little Rock, a former actuary in the Arkansas Insurance Department and author of the proposed initiated act which would set up the "Hollingsworth State Hospital System," is reported to have said that he and volunteer associates have begun to circulate petitions to place the measure on the ballot. In advancing the proposal, which he has worked on for more than a year, he cited the low place Arkansas holds in hospitalization, saying that the state has only twenty-five hospitals holding any rating from the American Medical Association and the American College of Surgeons. These hospitals have 1,860 beds. Although 4.5 beds per thousand of population is the minimum recommended by the American Hospital Association, the federal census of 1940 showed that Arkansas had only 2.15 beds per thousand of population in hospitals of all kinds, including mental institutions. Only Kentucky, with 1.98 beds, and Mississippi with 1.57, ranked lower than Arkansas. Mr. Hollingsworth declares, it was stated, that the state needs 9,000 beds for its population of nearly 2,000,000. His measure would provide 3,000 additional beds. The measure proposes to furnish hospitalization to all citizens for the "balance of cost" of hospitalization. The three member commission which would administer the program would calculate the cost to a patient by applying against his bill a proportion of the operating revenues received from taxes. Free service would be furnished, however, to those found by the commission to be charity patients. The program provides for those asking it a medical and clinical examination at the cost of materials used, but not to exceed $1.50. Physicians would charge their own fees for pay patients but would be required to furnish free service to charity patients. The first item on the hospital program, which would become effective Feb. 15, 1945, would be building and equipping of a research laboratory and administration building in Little Rock at a cost of not less than $500,000 nor more than $600,000. The commission would build five general hospitals in major cities, each at a cost of not less than $500,000 nor more than $2,500,000. Each hospital would have a nurses' school. Where one of the general hospitals is put into operation the commission would begin building an emergency hospital and clinic in each of the seventy counties not served by a general hospital. The aggregate cost of the seventy clinics and emergency hospitals could not exceed 10 per cent of the gross revenue for the first five years. The act would appropriate $5,000,000 for each of the fiscal years beginning next February 15 and Feb. 15, 1946. Of the appropriations $3,500,000 would be for capital expenditures, $900,000 for general operating expenses, $500,000 for salaries and $100,000 for research. The three commissioners would be appointed to seven year terms by the governor with the consent of the senate. They would receive $5,000 a year. A general auditor and general purchasing agent would receive $5,000 a year and a secretary-treasurer $4,200. The commission would fix the duties and the salary of all other employees. The entire project would be financed by new taxes on natural resources.

CALIFORNIA

State Medical Election.—Capt. Philip K. Gilman (MC) was chosen president-elect of the California Medical Association at its recent annual meeting and Dr. Lowell S. Goin, Los Angeles, was installed as president. Dr. George H. Kress, San Francisco, is secretary editor.

Personal.—The Ecuadorian government has granted its decoration "Al Merito" to Dr. Jacob C. Geiger, director of public health of the city and county of San Francisco, for "distinguished service, for noteworthy and indomitable leadership in the advancement of public health in the Americas."

Course in Eye, Ear and Throat.—The Research Study Club of Los Angeles announces that its fourteenth annual midwinter course in ophthalmology and otolaryngology will be held Jan. 22 to Feb. 2, 1945. A special course in applied anatomy and cadaver surgery of the head and neck will be held February 2-6. Additional information may be obtained from Dr. Pierre P. Violé, 1930 Wilshire Boulevard, Los Angeles 5.

CONNECTICUT

State Medical Election.—Dr. Joseph H. Howard, Bridgeport, was chosen president-elect of the Connecticut State Medical Society at its recent annual meeting and Dr. H. Gildersleeve Jarvis, Hartford, was installed as president. Drs. Maurice T. Root, West Hartford, and Edmund L. Douglass, Groton, are vice presidents. Dr. Creighton Barker, New Haven, is executive secretary, and Dr. Hugh B. Campbell, Norwich, treasurer.

Personal.—A public celebration was held in Rocky Hill, April 21, to honor the forty years of service of Dr. Oran A. Moser to the community. A gold watch and chain, the gift of his "babies," was presented to the physician by his "first baby." Dr. Thomas H. Denne, president of the Hartford Medical Society, paid special tribute to Dr. Moser on behalf of the society.——Dr. Hugh B. Campbell, Norwich, has resigned as superintendent of the Uncas-On-Thames State Tuberculosis Sanatorium to become medical director of the Phoenix Life Insurance Company of Hartford. He will be succeeded by Dr. William H. Weidman. Dr. Campbell is treasurer of the state medical association and at one time served as president.

DISTRICT OF COLUMBIA

Another Death from Spotted Fever.—The second fatality from Rocky Mountain spotted fever in Washington in eleven days was reported May 28. A woman of Vienna, Va., died May 27. The first death to be reported was that of Major Alexander R. Moir of the Royal Air Force Transport Command, who died May 16 (THE JOURNAL, June 3, p. 367).

Theodore Wiprud Named Professor at Georgetown.—Mr. Theodore Wiprud, executive secretary of the Medical Society of the District of Columbia, Washington, has been appointed professor of medical socioeconomics at Georgetown University School of Medicine. He will succeed Dr. Arthur C. Christie, who has been on the faculty of Georgetown for many years as special lecturer in medical economics. Dr. Christie will retain his position as professor of clinical radiology.

Blood Bank for Civilians.—On May 10 District commissioners ordered the creation of a District community blood bank to meet emergency civilian needs at minimum cost. Plasma will be distributed from the Office of Civilian Defense Blood Bank, which now has 2,000 units on hand, 1,500 units stored at ten Washington hospitals and 500 additional units in reserve storage at the George Washington University School of Medicine. The OCD bank has been financed by the Washington Central Labor Union since Pearl Harbor as a means of guaranteeing adequate blood supplies in the event of air raids or similar emergency. The reorganized blood bank will be directed by a six man governing board, whose members, named by the commissioners, are Dr. Charles Stanley White, representing surgeons of the district; Dr. John A. Reed, representing internists; Dr. John M. Orem of the Washington Association of Hospitals; Dr. Oscar B. Hunter of the Medical Society of the District of Columbia, and Dr. Roger M. Choisser, representing pathologists. The lay member of the committee, who will represent the union as sponsor and underwriter of the blood bank, has not yet been named.

ILLINOIS

Penicillin Gift to Peoria Hospitals.—Dr. and Mrs. George W. Michell, Peoria, have contributed funds to provide 22,200,000 units of penicillin to Peoria hospitals for persons unable to afford its use. Dr. Michell is medical director of two Michell sanatoriums in Peoria for mental and nervous conditions. The gift is in honor of Horace T. Herrick, Chem.E., director, North Regional Research Laboratory of the U. S. Department of Agriculture, and Robert D. Coghill, Ph.D., chief of fermentation division at the laboratory and coordinator of penicillin production in the United States. The gift has been made available to the John C. Proctor Hospital, Methodist Hospital of Central Illinois and the St. Francis

Hospital. Dr. Michell has stipulated that the case use of penicillin shall be determined by the staffs of each hospital in order that the drug may be given only in proper cases. The Michell gift will not be made available in gonococcic infections, since the state provides the drug for this disease.

Chicago

Memorial to Dr. Gifford.—The August issue of the *Quarterly Bulletin* of Northwestern University Medical School will be a memorial number to the late Dr. Sanford R. Gifford, who at the time of his death, February 25, was professor and chairman of the department of ophthalmology at the medical school.

Course in Otolaryngology.—The University of Illinois College of Medicine will hold its annual fall didactic and refresher course for specialists in otolaryngology, September 25-30. Registration is limited to 25. Applications should be addressed to the Department of Otolaryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12.

Frederic Gibbs Joins Illinois Faculty.—Dr. Frederic A. Gibbs, instructor in neurology at Harvard Medical School, Boston, has been appointed associate professor of psychiatry at the University of Illinois College of Medicine, effective September 1; he will have a similar appointment in the Illinois Neuropsychiatric Institute. Mrs. Gibbs has been appointed research assistant at the medical school.

Grant for Study on Renal Hypertension.—The John and Mary R. Markle Foundation has authorized a grant in aid of $5,400 annually for a two year period in support of research on experimental renal hypertension at the University of Illinois College of Medicine. The research work, which was initiated in 1942 under a two year grant of $7,000 from the foundation, is under the direction of Dr. George E. Wakerlin, professor and head of the department of physiology at the school.

Dr. Carlson Receives Friedenwald Medal.—Dr. Anton J. Carlson, emeritus professor of physiology at the University of Chicago School of Medicine, received the annual Friedenwald Medal of the American Gastroenterological Association during its annual banquet at the Drake Hotel, June 12. The presentation was made by Dr. Andrew C. Ivy. Speakers at the dinner included Hon. Joseph P. Kennedy, former ambassador of the United States to the Court of St. James's, on "Some Aspects of Today's Financial Situation."

KANSAS

Narcotic Violation.—Dr. Walter P. Stoltenberg, Kinsley, recently pleaded guilty in the U. S. District Court in Topeka to a violation of the United States narcotic laws. He was fined $500 and placed on probation for ten years.

New Director of Maternal and Child Health Division.—Clara R. Johns, assistant surgeon, U. S. Public Health Service, has been assigned as acting director of the division of maternal and child health of the Kansas State Board of Health.

LOUISIANA

Million Dollar Bequest to Hospital.—The will of the late Mrs. Marie Celeste Stauffer Eastwick carries a bequest which will amount to more than a million dollars for the Eye, Ear, Nose and Throat Hospital, New Orleans, according to the Orleans Parish Medical Society *Bulletin*. Mrs. Eastwick was the sister of Mr. Walter Stauffer, who was for many years president of the hospital. The will provides for the construction of an eye hospital on the ground adjoining the present building. The bequest also provides the means for research.

Health Committee Named.—The Orleans Parish Medical Society and the Association of Commerce have established a joint community health committee with Dr. Edwin L. J. Zander, president of the society, and Mr. Azzo J. Plough as co-chairman. The Orleans Parish Medical Society *Bulletin* states that the purpose of the new committee is to insure a closer cooperation between the medical profession and business in civic and industrial matters affecting community health. Members of the committee from the Orleans Parish Medical Society are, in addition to Dr. Zander, Drs. Andrew V. Friedrichs, Henry B. Alsobrook, Edmund L. Leckert and Daniel J. Murphy. The members from the Association of Commerce, in addition to Mr. Plough, are Leonard V. Huber, Joseph Dresner, Henry Walther and George Soule. All members are of New Orleans.

MISSOURI

Muench Granted Right to Take Examination.—At a meeting of the state board of health in Kansas City, April 24, Dr. Ludwig O. Muench, formerly of St. Louis, was granted permission to take the board's examination for a new license to practice medicine. In an opinion Nov. 30, 1943, Attorney General Roy McKittrick informed the state board of health that it did not have the authority to consider the application of Dr. Muench for restoration of his medical license but that it might pass on an application for an examination and issuance of a new license. Dr. Muench was released June 6, 1943 from the federal prison in Terre Haute, Ind., having served six years on a conviction of using the mails to defraud (THE JOURNAL, July 31, 1943, p. 959; January 8, p. 114). The license of Dr. Muench had been revoked in 1937 for unprofessional and dishonorable conduct.

NEW YORK

Dr. Charlton Receives Ewing Award.—On May 16 the Westchester County Medical Society presented to Dr. Herbert R. Charlton, Bronxville, the second James Ewing Award "as a token of recognition and commendation for distinguished service to the people and to the medical profession of Westchester County contributing to the understanding and control of malignant disease." Dr. Charlton is chairman of the cancer committee for Westchester County.

Million Dollars to Hospital.—The New Rochelle Hospital, New Rochelle, has been left half of an estate valued at more than two million dollars by the late Norman L. Noteman. Mr. Noteman's will directed that the First National Bank of New Rochelle, as trustee, establish the "Noteman Memorial Fund," the income to be used for the general purposes of the hospital, and empowered the trustee to draw on the principal for the construction of new buildings and other capital improvements.

Hospital Benefits Under Lieutenant's Will.—The new Lester N. Hofheimer Memorial operating room is under construction at Ossining Hospital, Ossining. The room was made possible by a $10,000 bequest to the hospital under the will of the late Lieutenant Hofheimer, who was killed in action in December. Lieutenant Hofheimer left the bulk of his estate, approximating $1,000,000, to philanthropic enterprises. After the death of certain beneficiaries in the will, a trust fund of $100,000 will revert to Mount Sinai Hospital, New York, and Hillside Hospital, Bellerose. The remainder of his estate is to be distributed among "religious, charitable, scientific or educational" institutions. The distribution of the estate is left to the discretion of three executors. On May 24 the only sum allocated was the $10,000 to Ossining Hospital.

Anatomist Dies.—Conrad E. Tharaldsen, Ph.D., professor and director of the William Waldo Blackman department of anatomy and chairman of the committee on graduate education at the New York Medical College Flower and Fifth Avenue Hospitals, New York, died in Crestwood, May 20. Dr. Tharaldsen received the degree of bachelor of science from St. Olaf College, Northfield, Minn., in 1907 and his degree of doctor of philosophy at Columbia in 1925. He later served as head of the biology department of the state normal school in Mayville, N. D., associate professor of zoology and acting director of the department, Northwestern University, becoming in 1927 professor of anatomy and head of the department at New York Medical College, then known as the New York Homeopathic Medical College and Flower Hospital. It was stated that at the time of his death Dr. Tharaldsen was preparing for publication an atlas of human anatomy on which he had been working for ten years.

Society Begins Summer Radio Programs.—Child health will be the theme of a series of radio broadcasts to begin July 1 under the auspices of the Medical Society of the County of Monroe. The talks will be broadcast over station WHAM, with Dr. Morris Fishbein, Editor of THE JOURNAL, opening the series with a discussion on "The Child as Key to Destiny and Future of America." Remaining lectures in the series will include:

Dr. John Aikman, Rochester, July 15, Accident Prevention.
Dr. Paul A. Lembcke, Rochester, July 22, The Child Hygiene Program of the New York State Department of Health, including EMIC Service.
Dr. Exie E. Welsch, Rochester, August 5, Mental Health of Child—dramatic presentation.
Dr. William L. Bradford, Rochester, August 12, Important Diseases Prevalent in Summer to Which Children Are Especially Susceptible—Poliomyelitis.
Dr. Jerome Glaser, Rochester, August 19, Forms of Allergy in Children and Infants.
Dr. John Merrell Parker, Rochester, August 26, Modern Aspects of Nutrition of Infant and Child.

OHIO

Dr. Tallman Named Commissioner of Mental Diseases.—Dr. Frank F. Tallman, Lansing, for more than two years director of mental hygiene in the state of Michigan, has been appointed commissioner of mental diseases in the Ohio State Department of Public Welfare, Columbus. There are fifteen hospitals for the mentally ill, feebleminded and epileptic in the division of mental diseases which Dr. Tallman will supervise, with a population of about 27,000 patients. In addition to his work with the hospitals, Dr. Tallman will be responsible for a receiving hospital program and a statewide program of mental hygiene.

Horsley Prize Awarded to Cincinnati Physician.—Major William B. Bean, M. C., on leave of absence as assistant professor of medicine at the University of Cincinnati College of Medicine, has been awarded the John Horsley Memorial Prize in Medicine in the amount of $600 for a paper on "Secondary Pellagra" prepared by Major Bean, Dr. Tom D. Spies and Dr. Marion A. Blankenhorn, Cincinnati. The prize was established in 1925 by Dr. J. Shelton Horsley, Richmond, Va., as a memorial to his father, Mr. John Horsley of Nelson County, Va., and was presented at the annual initiation ceremonies of the University of Virginia Chapter of Sigma Xi, May 11. The prize is open to all graduates of the department of medicine of the University of Virginia, Charlottesville, of not more than fifteen years' standing and to former interns of St. Elizabeth's Hospital in Richmond under the same conditions.

WEST VIRGINIA

Dr. Chipman Resigns from State Department.—Dr. Lenore V. L. Patrick-Chipman has resigned as director of the division of maternal and child hygiene in the West Virginia Department of Health to resume private practice at Williamstown, Ky.

Changes in Health Officers.—Dr. Walter J. Riley, formerly of Sutton, has been named health officer of district number 4 at Weston to succeed Dr. Claude A. Thomas. The latter has been named to a similar position in district number 5 with headquarters at Romney.

Deputy State Health Commissioner Appointed.—Albert L. Chapman, A. Surg., U. S. Public Health Service, has been assigned to the West Virginia Department of Health, Charleston, to serve as deputy state health commissioner. This arrangement was made pending the selection of a physician for the office under the merit system. The appointment of a deputy commissioner has been approved by the public health council of West Virginia, and certain administrative duties were to be assigned to him by Dr. John E. Offner, Weston, state health commissioner, when he assumed his new duties on June 15. The deputy will be in full charge of the office during the absence of the state health commissioner, who is frequently called on to attend public health conferences.

GENERAL

Remington Award Goes to Dr. Kendig.—The New York Branch of the American Pharmaceutical Association has awarded the 1944 Remington honor medal to Dr. Harvey Evert Kendig, dean of Temple University School of Pharmacy, Philadelphia, it was announced on May 24. Dr. Kendig is named for the award for his work leading to the establishment of a pharmacy corps in the U. S. Army. Dr. Kendig graduated at the Medico-Chirurgical College of Philadelphia in 1905. He has been dean of the Temple school of pharmacy since 1932 and in 1940-1941 was president of the American Association of Colleges of Pharmacy.

Banting Medals Presented.—This year for the first time at its fourth annual meeting in Chicago, June 11, the American Diabetes Association awarded the Banting Memorial Medals to all ex-presidents and to all Banting lecturers of the association. The medal was created to memorialize Dr. Frederick Banting, who at the time of his death was honorary president of the American Diabetes Association. Two medals will be awarded each year, one to the outgoing president and one to the lecturer. Presidents who have been given medals are Drs. Cecil Striker, Cincinnati, Herman O. Mosenthal, New York, and Joseph T. Beardwood, Philadelphia. Lecturers who have received the award are Drs. Elliott P. Joslin, Boston, first Banting lecturer, Dr. William Muhlberg, Cincinnati, and Col. Leonard G. Rowntree, M. C. Dr. Joseph H. Barach, Pittsburg, was elected president of the association at the recent session. Vice presidents are Drs. Russell M. Wilder, Rochester, Minn., and Edward S. Dillon, Philadelphia. Dr. Striker and Dr. Muhlberg were reelected secretary and treasurer respectively.

Special Society Elections.—Dr. Henry E. Michelson, Minneapolis, was elected president of the Society for Investigative Dermatology at its annual meeting in Chicago, June 13, and Dr. Herman Beerman, Philadelphia, was named vice president. Drs. Samuel W. Becker, Chicago, and Joseph Gardner Hopkins, New York, were reelected secretary and treasurer, respectively. The society will hold its annual meeting in 1945 on the day previous to the opening meeting of the annual session of the American Medical Association.——Dr. Abraham H. Aaron, Buffalo, was chosen president of the American Gastroenterological Association at its annual meeting in the Drake Hotel, Chicago, June 13. Drs Henry L. Bockus, Philadelphia, and Walter L. Palmer, Chicago, are vice presidents. Dr. John G. Mateer, Detroit, was reelected treasurer and Dr. J. Arnold Bargen, Rochester, Minn., secretary. The society will meet in Atlantic City the first Monday and Tuesday in May 1945. This plan is contingent on the dates selected for the annual session of the American Medical Association.——Dr. Ralph G. Carothers, Cincinnati, was chosen president-elect of the American Association for the Surgery of Trauma at its annual meeting in the Edgewater Beach Hotel, Chicago, June 13, and Col. Grover C. Penberthy, M. C., was installed as president. Dr. Casper F. Hegner, Denver, was elected vice president. Drs. Gordon M. Morrison, Boston, and Arthur R. Metz, Chicago, were reelected secretary and treasurer, respectively. Dr. Ellen C. Potter, Trenton, director of medicine, New Jersey State Department of Institutions and Agencies since 1930, on May 27 became president of the National Conference of Social Work.——Dr. Stanley P. Reimann, Philadelphia, was named president-elect of the American Society of Clinical Pathologists at its annual meeting at the Drake Hotel, Chicago, June 9, and Dr. Frank W. Konzelmann, Philadelphia, was inducted into the presidency. Drs. Josiah J. Moore, Chicago, and Alfred S. Giordano, South Bend, Ind., were reelected vice president and secretary-treasurer, respectively. The Ward Burdick medal was presented by the association to Dr. Frank W. Hartman, Detroit, for his work on "Production, Prevention and Treatment of Experimental Liver Necrosis."——Dr. Conrad Berens, New York, was chosen chairman of the Association for Research in Ophthalmology at its annual meeting at the Hotel Sherman, Chicago, June 13. Major Brittain F. Payne, M. C., was reelected secretary-treasurer of the association. Dr. Hunter H. Romaine, New York, is the assistant secretary.

LATIN AMERICA

Health Activities in Latin America.—*Hospitals Must Pay Minimum Wage Scale.*—Hospitals and clinics throughout Puerto Rico will have to pay the minimum wage scale established by the minimum wage board on May 18, 1941, according to a recent decision rendered by the Supreme Court of Puerto Rico. The decision followed an appeal from eighteen institutions which contended that they were financially unable to carry out the requirements of the order since a great part of their work is charitable. It was charged that the board has exceeded its powers. The order applies to all workers employed in municipal hospitals, insular sanatoriums and district hospitals.

Drugs in Puerto Rico.—The sulfonamide drugs, far from being a "cure-all" in cases of gonorrhea in Puerto Rico, have effected apparent cures in about 40 per cent of the cases in which they have been used, according to a report June 8. Penicillin has been made available in four island hospitals which have been designated as depots. A maximum of 10 million units will be available for distribution monthly at the discretion of physicians of the staff. The hospitals named as depots are the Presbyterian, University Hospital of the School of Tropical Medicine and the district hospitals of Bayamon and Fajardo.

New Construction.—In a report presented to the West Indian Conference in Barbados under the auspices of the Anglo-American Caribbean Commission (THE JOURNAL, June 10, p. 442) Dr. Antonio Fernos-Isern, San Juan, commissioner of health of Puerto Rico, announces that $43,000,000 will be spent in the next six years in Puerto Rico on public health and welfare, more than half of which will be expended to include sanitation systems. Five new free general hospitals will be constructed to provide a total of 2,500 beds, which, it is expected, will, with available facilities, raise the proportion of beds to the population to about 4½ beds per thousand inhabitants. The proposed plans call for the construction of four antituberculosis sanatoriums, expansion of the present one and the building of a new mental hospital.

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 20, 1944.

Reform of Medical Education

A planning committee of the Royal College of Physicians has found grave defects in the medical curriculum—too much unnecessary detail, which overloads the student, too much emphasis on fact and too little on method. The students themselves fall short of what is desirable. Too many have neither the character nor the ability to make good doctors. This is chiefly due to the small number seeking admission. It is proposed that the field from which medical students are selected should be widened by making university education free and by providing maintenance grants for those who need them. Each university or medical school should have a yearly quota of admissions. Suitability for entry should be judged by academic ability measured by school record and examination, and by character and personality. Selection should be made by a small body elected by the university or medical school.

School education should be continued at least until the age of 18 years, the committee suggests; specialization, whether in arts or in science, should be more limited than at present. Before entry to a university a medical student should produce evidence of having attained a high standard in chemistry, physics and biology. At the university it is recommended that he begin with a course of three terms, planned by teachers of the basic sciences in collaboration with the professors of anatomy and physiology, as an introduction to the study of man.

In the preclinical period of medical studies the committee recommends that the amount of topographic anatomy be considerably reduced, the details required for operative surgery being reserved for postgraduate teaching. A short series of classes on certain aspects of psychology should be introduced. The clinical studies should be linked more closely with the preclinical by attaching some junior preclinical teachers to the clinical departments and vice versa, by using clinical cases to illustrate the principles of anatomy, physiology, biochemistry and pharmacology, and by introducing methods of examining the normal body.

It is also suggested that the clinical period be divided into two parts—an undergraduate period of three years and a graduate period of one year. The former should aim at the teaching of method and principles and the development of judgment rather than the memorizing of facts. The system of clinical clerking and dressing should be retained with the following suggested modifications: 1. There should be an introductory course of at least three months. 2. Teaching should as far as possible be orderly, as opposed to random, and during the several appointments should be more closely coordinated. 3. The student should receive more supervision and encouragement from senior teachers. In the graduate period resident house appointments should be held at recognized hospitals. It would be an advantage for these posts to last four months, so that three of them could be held in the course of a year. Five kinds of positions would provide suitable training—general surgery, general medicine, obstetrics and gynecology, pediatrics and special departments. Each graduate should hold one post in general medicine and one in general surgery, and these should include work in the emergency department of the hospital. The third should be chosen from the remaining posts mentioned according to availability and option. Such posts already are in vogue, but making them compulsory is a great innovation.

These changes also require a reform in the examination system. Two final examinations are considered desirable. The first, at the end of the undergraduate period, should test the student's grasp of method and principle and license him to practice only in the hospital. The second, at the end of the resident year, should test his practical capability and license him to practice independently. While the first examination would test whether or not the student is fit to undertake the care of hospital patients, the resident appointment would provide experienced superiors readily available whenever he is at a loss. Such an examination need not therefore concentrate on the extent of the student's factual knowledge or seek to find out what he does not know. It should rather seek to discover his acquaintance with the general principles underlying his subjects, his grasp of methods in clinical inquiry and his ability to form a judgment on the facts.

Germany's Chemical Industry and Control of Drugs

Lord Vansittart, speaking in the House of Lords, asked the government whether in view of the paramount necessity of permanently preventing the manufacture of all explosives in Germany after the war they would appoint a committee of scientists to prepare a plan with particular regard to control or elimination of Germany's nitrate and hydrogenation plants. Lord Horder said that, speaking as a doctor, it was clear that the Nazis long and devilish preparation for an all out war included more things than killing human beings by explosives. It included prevention of the cure of human beings who fell sick. For a long time the Nazis deliberately cut to the starvation point the manufacture by other countries of chemical substances vital in the pursuit of medical science and treatment. He referred to two essential drugs. The first was suramin, which the Nazis—surely with their tongue in their cheek, he thought—called "Germanin." They prevented other countries from using it. It was made by Bayer as the result of a secret process and was of great use in the treatment of sleeping sickness. Still more important was the synthetic atabrine, a substitute for quinine and also a Bayer product. Both the constituents and the mode of preparation were kept secret for a long time, and supplies outside Germany were strictly limited. At the outbreak of war, of course, these supplies ceased. We relied on the quinine obtained in large quantities from the Dutch East Indies. When that supply failed we were badly handicapped. A full inquiry should be made by expert chemists into the whole field of synthetic chemical industry in Germany, Lord Horder stated. In conjunction with our allies, some plan should be devised to prevent entirely the manufacture of explosives and the control of essential drugs, he thought.

Replying for the government, Lord Cherwell agreed that if we could prevent Germany from making synthetic nitrates we could prevent her from making war. But nitrogen was the essential element in proteins, and in a modern world we had largely replaced the bacteria in the roots of certain plants capable of fixing nitrogen and putting it back in the soil, by the synthetic fertilizer. The problem was, he said, that if we stopped Germany from making synthetic nitrates or ammonia there would be difficulty in getting fertilizers for central Europe. Every effort would be made to find a way of circumventing this difficulty. The same situation applied to the question of hydrogenation. The government agreed that the time had come to extend the participation of scientists in these questions.

Marriages

EUGENE CHARLES WINKELMANN, Brenham, Texas, to Miss Ann Carolyn Franks in Dallas, March 12.

ROBERT JOSEPH WHIPPLE, McConnellsville, N. Y., to Miss Gwendolyn Hunt of Semora, N. C., May 14.

JAMES L. MUDD, St. Louis, to Miss Vivie Boevingloh of Germantown, Ill., May 3.

LOUIS L. SHERMAN to Miss Audrey Moe, both of Detroit, April 30.

Deaths

Henry **Edwards Palmer,** Tallahassee, Fla.; University of Maryland School of Medicine, Baltimore, 1892; member and past president of the Florida Medical Association; past president of the Second District Medical Society and formerly councilor; past president of the Leon-Gadsden-Liberty-Wakulla-Jefferson Counties Medical Society; past president of the state board of medical examiners; formerly member of the state board of health; at various times served as county health officer; served as president of the Association of Seaboard Air Line Railway Surgeons and the Association of Florida Railway Surgeons; local surgeon of the Flint River & Northwestern Railway, Florida Central & Peninsula Railroad and Seaboard Air Line Railway at Tallahassee for fifty years; charter member and also served as president of Tallahassee Kiwanis Club; died March 22, aged 77, of Adams-Stokes syndrome.

George Eason Blue ⊕ Montgomery, Ala.; Columbia University College of Physicians and Surgeons, New York, 1916; U. S. Army Medical School in 1918; fellow of the American College of Surgeons; member of the American Association of Industrial Physicians and Surgeons and the American Association of Railway Surgeons; affiliated with the Alabama Power Company, Western Railway of Alabama, Louisville and Nashville Railroad, Atlantic Coast Line Railroad, Seaboard Air Line Railway and the Montgomery City Lines; medical director and vice president of the All States Life Insurance Company; served during World War I; on the staff of St. Margaret's Hospital; died May 27, aged 53, of coronary thrombosis.

Edward Warren Beach ⊕ Philadelphia; University of Pennsylvania Department of Medicine, Philadelphia, 1904; assistant professor of anesthesiology, the Medico-Chirurgical College, Graduate School of Medicine, University of Pennsylvania; member of the American Society of Anesthetists, Inc.; served as president of the Eastern Society of Anesthetists; member of the board of directors, chairman of the publication committee and active on the anesthesia study commission, Philadelphia County Medical Society; formerly member of the board of directors of the West Philadelphia Medical Association; chief of the department of anesthesia at the Graduate and Wills hospitals; died April 29, aged 64, of heart disease.

Wilbur **Taylor Little,** Canon City, Colo.; University of Pennsylvania Department of Medicine, Philadelphia, 1893; member of the Colorado State Medical Society; secretary and past president of the Fremont County Medical Society; a lieutenant colonel in the medical corps of the U. S. Army during World War I; coroner and health officer of the county; served on the staffs of the Veterans Administration facilities in San Fernando, Calif., and West Los Angeles; chairman of the local Red Cross chapter for many years; a member of the board of directors of the Fremont County National Bank; on the staff of the Colorado Hospital, where he died April 1, aged 73, of carcinoma of the prostate with metastases.

Ephraim **Rankin McLean,** Cleveland, Miss.; Memphis (Tenn.) Medical College, 1902; member of the Mississippi State Medical Association; past president of the Tri-State Medical Society; a captain in the medical corps of the U. S. Army during World War I; at one time county health officer, sheriff and tax collector of Bolivar County; an organizer and charter member of the Cleveland Volunteer Fire Department; a charter member and once president of the Cleveland Rotary Club; for many years district physician and surgeon for the Illinois Central Railroad Company; on the staff of the City Hospital, where he died April 21, aged 65, of congestive heart disease.

William **Carlton Farmer,** San Antonio, Texas; Hospital College of Medicine, Louisville, Ky., 1891; honorary member of the State Medical Association of Texas; honorary life president of the Bexar County Tuberculosis Association; honorary member of the National Tuberculosis Association, of which he had been a member since 1904 and for many years a member of the board of directors; served as president of the Texas Public Health Association and the Texas State Tuberculosis Association; member of the American College of Chest Physicians; formerly owner of Dr. Farmer's Sanatorium; died April 5, aged 77, of carcinoma.

Ethel **Langdon Leonard,** Staten Island, N. Y.; University of Southern California College of Medicine, Los Angeles, 1902; formerly professor of bacteriology at her alma mater and professor of histology, pathology and bacteriology in the dental department of the University of Southern California; served as city bacteriologist of Los Angeles; formerly associated with the Woman's Methodist Hospital and the Rockefeller Foundation, Peking, China; also in private practice in Peking, Tientsin and Peitaiho; resident anesthetist in the Staten Island Hospital, where she died April 12, aged 73, of injuries received when struck by a bus.

Alexander Francis Stevenson ⊕ Chicago; Rush Medical College, Chicago, 1898; formerly assistant clinical professor of medicine at his alma mater and assistant professor of medicine at the Chicago Policlinic; medical examiner for the Northwestern Mutual Life Insurance Company from 1904 to 1917; fellow of the Institute of Medicine of Chicago; member of the Chicago Pathological Society and the Chicago Society of Internal Medicine; on the staffs of the Grant and St. Luke's hospitals; died in the Presbyterian Hospital April 2, aged 71, of coronary heart disease and pulmonary edema.

Edgar Harvey Albers, Chicago; Northwestern University Medical School, Chicago, 1917; Army Medical School, 1918; diplomate of the National Board of Medical Examiners; served in the medical corps of the U. S. Army during World War I; died in Clinton, Iowa, May 7, aged 52, of heart disease.

Justus Bernard Chaffin, San Angelo, Texas; University of Texas School of Medicine, Galveston, 1906; member of the State Medical Association of Texas; served two terms as president of the Tom Green County Medical Society; died March 21, aged 67, of coronary occlusion.

Edward Francis Cummiskey, Chicago; Georgetown University School of Medicine, Washington, D. C., 1896; medical director of the Zurich General Accident and Liability Insurance Company; died in the Columbus Hospital May 1, aged 70, of heart disease and adenoma of the prostate.

Edward Benjamin Jacobs, Chicago; Northwestern University Medical School, Chicago, 1910; died April 8, aged 59, of coronary thrombosis and chronic myocarditis.

Samuel Jones Lewis, Columbus Junction, Iowa; Missouri Medical College, St. Louis, 1896; member of the Iowa State Medical Society; past president and secretary of the Louisa County Medical Society; served as mayor of Columbus Junction for two terms; died in Iowa City March 29, aged 73, of angina pectoris.

Orland Smith Mayhew ⊕ Vineyard Haven, Mass.; Harvard Medical School, Boston, 1901; examining physician of the Selective Service Board; on the staffs of Martha's Vineyard Hospital, Oak Bluffs, and the U. S. Marine Hospital, where he died February 26, aged 66, of cerebral hemorrhage.

Robert John McNeill, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1901; on the staffs of the Hahnemann Hospital and St. Luke's and Children's Medical Center; died March 8, aged 66, of coronary thrombosis.

Walter Whitcomb Strang ⊕ New York; Columbia University College of Physicians and Surgeons, New York, 1896; an Affiliate Fellow of the American Medical Association and a member of the House of Delegates in 1911; formerly served as consulting pediatrician at the Hospital for Ruptured and Crippled; died April 14, aged 73, of carcinoma of the intestine.

Frank Joseph Weber ⊕ Olney, Ill.; Washington University School of Medicine, St. Louis, 1904; chief surgeon of the Olney Sanitarium Clinic and the Olney Sanitarium, where he died March 25, aged 65, of carcinoma of the stomach.

Ferdinand Edward Weddigen, Williamsport, Pa.; Maryland Medical College, Baltimore, 1900; served as coroner's pathologist; a member of the medical advisory board during World War I; for many years pathologist in the laboratory at the Williamsport Hospital, where he died April 11, aged 71, of carcinoma of the floor of the mouth.

William Eugene Whitlock ⊕ High Springs, Fla.; Medical College of the State of South Carolina, Charleston, 1910; formerly a member of the South Carolina National Guard; a captain in the medical corps of the U. S. Army during World War I; served as Florida department commander and as national vice commander of the American Legion; mayor of High Springs and for many years city health officer; died in Meridian, Miss., April 5, aged 56, of lobar pneumonia.

Frank Paul Winkler ⊕ Sibley, Iowa; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1906; president of the Iowa State Medical Society, 1942-1943; fellow of the American College of Surgeons; part owner of the Osceola Hospital; died May 10, aged 61, of cardiac decompensation.

George Garfield Yost, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1906; died March 10, aged 65, of myocarditis.

Correspondence

TONSILLECTOMY AND POLIOMYELITIS

To the Editor:—In the editorial "Tonsillectomy and Poliomyelitis" in the May 20 issue of THE JOURNAL, which commented on the significance of a recent paper by R. E. Howard on the subject (*Ann. Otol., Rhin. & Laryng.* **53**:15 [March] 1944), it was stated that, "while control observations are not available showing that poliomyelitis, under the circumstances mentioned, occurs more frequently in children after tonsillectomy and adenoidectomy than in children who have not been subjected to such operations, the clinical observations and impressions indicate that these operations may favor poliomyelitis infection." While it is true that a perfectly controlled set of observations is not available and may be impracticable to assemble, the undersigned, in association with M. Stillerman, now a member of the Army Medical Corps, secured information directly bearing on this matter, at least for children recently tonsillectomized, in Toronto following the outbreak of poliomyelitis there in 1937. Facts were collected not only on the history of tonsillectomy in each child stricken with poliomyelitis and the type of poliomyelitis in the individual case, but also on the total number of children operated on for removal of tonsils and adenoids just before or during the epidemic period. Analysis of the data (reported in the *American Journal of Diseases of Children* **61**:305 [Feb.] 1941) showed that acute poliomyelitis developed more often in those recently tonsillectomized than in other children, and that the increased incidence was due entirely to the excess of cases of the bulbar form.

ALFRED E. FISCHER, M.D.
HERBERT H. MARKS, A.B.
New York.

SPLENECTOMY IN PREGNANCY COMPLICATED BY THROMBOCYTOPENIA PURPURA HEMORRHAGICA

To the Editor:—I thank Captain Grossman for calling my attention to his case (THE JOURNAL, May 6, p. 82) reported by Bernstein, Newman and Hitzig (The Problem of Ideopathic Purpura Hemorrhagica in Pregnancy and the Neonatal Period, *Am. J. Obst. & Gynec.* **38**:323 [Aug.] 1939). The article is good and I'm sorry I missed it in my search through the literature.

Here are the facts: Dr. John Garlock performed a splenectomy on Captain Grossman's patient on March 21, 1938. She delivered a male infant two months prematurely. The infant died of atelectasis eight days later. Both the mother and the infant were free from thrombocytopenia purpura hemorrhagica. The authors questioned the role of splenectomy in the premature onset of the labor.

My patient (THE JOURNAL, March 18, p. 771) delivered two weeks prior to estimated term. Both the mother and the infant are alive and well at the present writing.

One other case has come to light. Dr. Louis Sosnow of Hillsdale, N. J., informs me that he took care of a patient whom he delivered of a normal girl infant in February 1936. The mother almost died of exsanguination following the delivery. His patient became pregnant again and was studied by Dr. Rosenthal, who advised splenectomy. Dr. David Corn performed the splenectomy on March 11, 1937 (note the date) at the Hackensack Hospital, Hackensack, N. J., when the patient was in the second month of her gestation. She aborted nine days later. The mother is well. She has not had children since her operation. This case was not recorded in the literature. Perhaps other cases may be heard from.

With respect to my case being a "first," let the records speak for themselves. The facts may be variously interpreted. It really is not so important as the clinical entity itself. I call attention to the fact that I phrased my statement very cautiously, that I did not stress the "first"; in fact, I deliberately omitted it from my summary. I had a hunch that the condition had been treated by splenectomy before and that for one reason or another had been either not reported or was reported (as in Captain Grossman's case) only as an incident in a very important and very trying clinical entity. Let it go at that.

DAVID POLOWE, M.D., Paterson, N. J.

HANDBOOK ON LABORATORY ANIMALS

To the Editor:—The Universities Federation for Animal Welfare is compiling a handbook on the care and management of laboratory animals. The aim is to provide a concise, practical manual which will facilitate the uniform and humanitarian care of the smaller laboratory species, and it is in no way intended to produce a comprehensive monograph for each species. It is hoped to publish the work at such a cost that it will be readily accessible to technicians as well as to scientific workers.

The different chapters deal with (1) animal houses and their pests, (2) the rat, (3) the mouse, (4) the rabbit, (5) the guinea pig, (6) the vole, (7) the hamster, (8) the cotton rat, (9) the deer mouse, by Prof. Lee R. Dice, University of Michigan, (10) the ferret, (11) the hedgehog, (12) the pigeon, (13) the fowl, (14) the canary, (15) the frog, the African clawed toad (Xenopus laevis) and certain other amphibia, (16) certain fish, (17) the training of laboratory assistants, (18) the law and practice of animal experimentation and (19) the use of statistical methods. All chapters are being drafted by individual workers drawn from various laboratories, including the Lister Institute of Preventive Medicine, the London School of Hygiene and Tropical Medicine, the Agricultural Research Council's Field Station, the Ministry of Agriculture and Fisheries Veterinary Laboratory and also its Fisheries Research Section, the Harper Adams Agricultural College, the Bureau of Animal Population and various other hospital laboratories and university departments. Collaboration is being received also from the National Institute for Medical Research, the National Veterinary Medical Association and individual workers in many fields. In order to obtain supplementary information, a questionnaire has been forwarded to all workers in Great Britain who hold a license for animal experimentation.

In present circumstances it is not practicable to draw fully upon American experience, but as general editor of the handbook I should be most grateful for any information which workers in the United States and Canada would forward to me. Reprints, of which two copies would be welcomed, would assist us in our task. The information will be gratefully acknowledged in the text, unless the contrary is requested by those forwarding it. It is hoped that the handbook will be made available both in the United States and in Canada.

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Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

EXAMINING BOARDS IN SPECIALTIES

Examinations of the Examining Boards in Specialties were published in THE JOURNAL, June 17, page 512.

BOARDS OF MEDICAL EXAMINERS

ALABAMA: Montgomery, Oct. 24-26. Sec., Dr. B. F. Austin, 519 Dexter Ave., Montgomery.

ALASKA: Juneau, September 5. Sec., Dr. W. M. Whitehead, Box 561, Juneau.

CALIFORNIA: San Francisco, June 27-29 Sec., Dr. Frederick N. Scatena, 1020 N St., Sacramento.

COLORADO:* *Endorsement.* Denver, July 4. *Written.* Denver, July 10-12. Sec., Dr. J. B. Davis, 831 Republic Bldg., Denver.

CONNECTICUT:* *Written.* New Haven, July 11-12. *Endorsement.* New Haven, July 25. Sec. to the Board, Dr. Creighton Barker, 258 Church St., New Haven. *Homeopathic.* Derby, July 11-12. Sec., Dr. J. H. Evans, 1488 Chapel St., New Haven.

DELAWARE: Dover, Oct. 10-12. Sec., Medical Council of Delaware, Dr. J. S. McDaniel, 229 S. State St., Dover.

DISTRICT OF COLUMBIA:* Washington, November. Sec., Commission on Licensure, Dr. G. C. Ruhland, 6150 E. Municipal Bldg., Washington.

FLORIDA:* Jacksonville, June 26-27. Sec., Dr. W. M. Rowlett, Box 786, Tampa.

HAWAII: Honolulu, July 10-13. Sec., Dr. J. A. Morgan, 55 Young Bldg., Honolulu.

IDAHO: Boise, July 11. Dir., Bureau of Occupational Licenses, Mrs. Lela D. Painter, 355 State Capitol Bldg., Boise.

ILLINOIS: Chicago, June 27-29. Supt. of Registration, Department of Registration & Education, Mr. Philip Harman, Springfield.

IOWA:* Iowa City, Sept. 25-27. Dir. Division of Licensure and Registration, Mr. H. W. Grefe, Capitol Bldg., Des Moines.

KANSAS: Nov. 2-3. Sec., Board of Medical Registration and Examination, Dr. J. F. Hassig, 905 N. Seventh St., Kansas City.

KENTUCKY: Louisville, Sept. 11-12. Sec., State Board of Health, Dr. Philip E. Blackerby, 620 S. Third St., Louisville.

LOUISIANA: September. Sec., Dr. R. B. Harrison, 1507 Hibernia Bank Bldg., New Orleans.

MAINE: Augusta, July 5-6. Sec., Board of Registration of Medicine, 192 State St., Portland.

MASSACHUSETTS: Boston, July 11-14. Sec., Board of Registration in Medicine, Dr. H. Q. Gallupe, 413-F State House, Boston.

MINNESOTA:* Minneapolis, Aug. 29-31. Sec., Dr. J. F. Du Bois, 230 Lowry Medical Arts Bldg., St. Paul.

MISSOURI: St. Louis, August. Sec., State Board of Health, Dr. James Stewart, State Capitol Bldg., Jefferson City.

MONTANA: Helena, Oct. 2-4. Sec., Dr. O. G. Klein, First Nat'l. Bank Bldg., Helena.

NEBRASKA:* Omaha, Sept. 26-28. Dir., Bureau of Examining Boards, Mr. Oscar F. Humble, 1009 State Capitol Bldg., Lincoln.

NEW HAMPSHIRE: Concord, Sept. 14-15. Sec., Board of Registration in Medicine, Dr. D. G. Smith, 77 Main St., Nashua.

NEW MEXICO:* Santa Fe, Oct. 9-10. Sec., Dr. LeGrand Ward, 141 Palace Ave., Santa Fe.

NEW YORK: Albany, Buffalo, New York City and Syracuse, June 26-29. Sec., Dr. R. R. Hannon, Education Bldg., Albany.

NORTH CAROLINA: Raleigh, Sept. 11-12. Sec., Dr. W. D. James, Hamlet.

NORTH DAKOTA: Grand Forks, July 5-8. Sec., Dr. G. M. Williamson, 4½ S. Third St., Grand Forks.

OHIO: *Endorsement.* Columbus, July 4. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus.

OKLAHOMA:* Oklahoma City, Sept. 16. Sec., Dr. J. D. Osborn, Jr,. Frederick.

OREGON:* Portland. July 26-27. Exec. Sec., Miss L. M. Conlee, 608 Failing Bldg., Portland.

PENNSYLVANIA: Harrisburg, July 11-15. Act. Sec., Bureau of Professional Licensing, Department of Public Instruction, Mrs. M. G. Steiner, 358 Education Bldg., Harrisburg.

SOUTH CAROLINA: Columbia, June 26-28. Sec., Dr. N. B. Heyward, 1329 Blandena St., Columbia.

SOUTH DAKOTA: Pierre, July 18-19. Dir., Medical Licensure, State Board of Health, Dr. Gilbert Cottam, Pierre.

TEXAS: Galveston, June 26-28. Sec., Dr. T. J. Crowe, 918-20 Texas Bank Bldg., Dallas.

VERMONT: Burlington, Sept. 12-14. Sec., Dr. F. J. Lawliss, Richford.

VIRGINIA: Richmond, Sept. 19-22. Sec., Dr. J. W. Preston, 30½ Franklin Rd., Roanoke.

WASHINGTON:* Seattle, July 10-12. Dir., Department of Licenses, Mr. Thomas A. Swayze, Olympia.

WISCONSIN:* Milwaukee, June 27-29. Sec., Dr. C. A. Dawson, Tremont Bldg., River Falls.

* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

DISTRICT OF COLUMBIA: Washington, October. Sec., Commission on Licensure, Dr. G. C. Ruhland, 6150 E. Municipal Bldg., Washington.

IOWA: Des Moines, July 11. Dir., Division of Licensure and Registration. Mr. H. W. Grefe, Capitol Bldg., Des Moines.

OKLAHOMA: Oklahoma City, July 3. Sec., Dr. J. D. Osborn Jr., Frederick.

TENNESSEE: Nashville and Memphis, June 23-24. Sec., Dr. O. W. Hyman, Memphis.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Trade-Marks: "Meds" for Catamenial Device Not Confusingly Similar to "Med-I-Pax" for Medicated Vaginal Suppository.—The Personal Products Corporation, hereafter referred to as the appellant, sought to register as a trade-mark in the United States Patent Office the term "Meds" to be used on an unmedicated internal catamenial device, comprising telescopically arranged paper tubes and a cotton tampon having a withdrawal string attached thereto and extending outwardly through the inner tube. The appellant sells its product at retail to the general public through drug stores, chain stores and department stores at 20 cents a package of ten tampons. A notice of opposition to the registration was filed by the Allen Laboratories, Inc., hereafter referred to as the appellee, who is the owner of a trade-mark previously registered in the patent office on the term "Med-I-Pax," which is used on "medicated vaginal suppositories" or "vaginal tampon suppositories." The appellee's device is suppository medicated with either metaphen or merthiolate, molded to facilitate easy insertion and attached to the upper end of a cotton tampon. It is used for "medical treatment" of "gynecologic conditions," not as a catamenial device. The cotton tampon to which the medicated suppository is attached is designed to hold the medicament in the area of infection or inflammation and to absorb exudates. The appellee's products are sold at $1 a package of six by druggists on physicians' prescriptions and are advertised only in medical journals, by contact with physicians and by exhibits at medical conventions.

The appellee apparently opposed the registration of "Meds," applied to the catamenial device, as a trade-mark on the grounds that "Meds" so nearly resemble its own registered trade-mark "Med-I-Pax" that it would be appropriated to merchandise of the same descriptive property as "Med-I-Pax" and that such use would likely deceive or cause confusion or mistake in the minds of purchasers.[1] The tribunals of the patent office concurred in holding that the goods of both parties possess the same descriptive properties, that the marks were confusingly similar and that the appellant was not entitled to the registration of its trade-mark. In a decision holding the marks to be confusingly similar, the commissioner of patents stated, among other things, that, although the goods of the respective parties were not competitive, they

> are very closely associated in use, and may reasonably be assumed to be produced by the same manufacturer. I doubt that one would be mistaken for the other, but if sold under similar trade-marks I am convinced that there is at least some likelihood of confusion as to origin. In reaching this conclusion I have not overlooked existing differences in price and in methods of sale. Both are subject to change. Nor is it material that there is no evidence of actual confusion.

The appellant then appealed to the court of customs and patent appeals.

Counsel for the appellant contended that, considering the differences in the trade-marks of the parties and the goods to which they are applied, the marks are not confusingly similar; that the appellant's trade-mark "Meds" is a coined, arbitrary mark and, as applied to appellant's goods, has no descriptive

1. U. S. Code, title 15, sec. 85, provides in part: " . . . trade marks which are identical with a registered or known trade mark owned and in use by another and appropriated to merchandise of the same descriptive properties, or which so nearly resemble a registered or known trade mark owned and in use by another and appropriated to merchandise of the same descriptive properties as to be likely to cause confusion or mistake in the mind of the public or to deceive purchasers shall not be registered."

significance; that apart from the syllable "Med" in appellee's mark there is no similarity between the marks of the parties; that as the syllable "Med" in appellee's mark is an abbreviation of the term "medical" or "medicine," as used in appellee's mark, it is descriptive of the character and quality of appellee's goods and therefore is not the dominant feature of appellee's trade-mark; and that appellee is not entitled to its exclusive use. The prefix "Med" in appellee's trade-mark "Med-I-Pax," said the court, is defined by the lexicographers as an abbreviation of the terms "medical" and "medicine." See Funk & Wagnalls New Standard Dictionary, Webster's New International Dictionary and the Century Dictionary and Cyclopedia. Furthermore, it was conceded by an officer of the appellee on direct examination before the commissioner that he understood the prefix "Med" to be an abbreviation of "medical" or "medicine." Accordingly the prefix "Med," as used in appellee's mark, is descriptive of the character or quality of appellee's goods and therefore is not the dominant feature of the mark. However, the term "Meds," as applied to appellant's product "Meds," the catamenial device, is not descriptive of the character or quality of the goods. Whether it is registrable as a trade-mark for use on appellant's goods in view of trade-marks previously registered in the patent office[2] is not at issue before us, since there has been no ex parte rejection of appellant's application for the registration of the mark. The sole question in this case is whether, considering the differences in the marks of the respective parties and the differences in the goods to which the marks are applied, concurrent use of the marks would be likely to cause confusion or mistake in the mind of the public or to deceive purchasers. Considering the fact, the court concluded, that appellee's "Medicated Vaginal Suppositories" are used for medical treatment and for the prevention, cure or alleviation of disease, whereas appellant's *unmedicated* tampons are devices used solely for catamenial protection, and considering the differences in the marks of the parties, we are of the opinion that the concurrent use of the marks on the goods of the parties would not be likely to cause confusion or mistake in the mind of the public or to deceive purchasers. Accordingly, the decision of the Commissioner of Patents refusing registration of the trade-mark "Meds" was reversed.—*Personal Products Corporation v. Allen Laboratories, Inc., 141 F. (2d) 702 (1944).*

2. For instance, "Medo" for use on sanitary bloomers and "Medix" for use on sanitary napkins.

Society Proceedings

COMING MEETINGS

Maine Medical Association, Rockland, June 25-27. Dr. Frederick R. Carter, 142 High Street, Portland 3, Secretary.

National Medical Association, St. Louis, Aug. 14-17. Dr. John T. Givens, 1108 Church St., Norfolk, Va., Secretary.

MEDICAL CORRECTIONAL ASSOCIATION

An Affiliate of the American Prison Association

Annual Professional Meeting, Monday, Nov. 22, 1943

DR. J. D. REICHARD, Lexington, Ky., Presiding

Segregation of Federal Prisoners

DR. MARION R. KING, Springfield, Mo.: Many administrative and medical problems incident to the welfare of prisoners involve segregation. Segregation of prisoners in the federal system is carried out as follows: Classification or admission segregation. New prisoners are segregated from others for the purpose of observation, orientation and classification. Medical segregation. The separation of inmates with communicable or contagious diseases is well recognized practice in prison as well as in civilian communities. Similar segregation is also prescribed for mentally afflicted prisoners who manifest symptoms of such a degree and nature as to be a menace to themselves or to others. Punitive segregation. Administrative segregation.

The Problem of Alcohol

DR. LAWRENCE KOLB, Washington, D. C.: In this country 16 per cent of all murders and a larger proportion of other serious crimes of violence are committed by persons under the influence of alcohol. Alcohol is also an important cause of social disorder and disease which lead either directly or indirectly to delinquency, ill health and death. Counting all the deaths in which alcoholism is a factor gives a rate of 10.2 per hundred thousand of the population which stamps alcohol as a major cause of death. Striking evidence of the role of alcoholism in the production of disease may be found by examining mental hospital statistics. In 1939 4.5 per cent of all first admissions to state hospitals in the United States were for patients suffering from alcoholic psychoses. In the same year in New York 10.5 per cent of all males and 2.3 per cent of all females admitted for the first time to state mental hospitals had alcoholic psychoses. From 2,000,000 to 2,400,000 persons are arrested for drunkenness each year in this country.

The fact that six times more men than women become alcoholic addicts is explained by the strong social conscience against indulgence by women in the type of behavior that is inseparable from excessive drinking. Women are just as neurotic, unstable and physically and mentally susceptible as men, but they drink less. Likewise the relative infrequency of chronic alcoholism among Jews may be explained at least in part by the group feeling that to throw one's life away on drunkenness is a disgraceful course that no worthwhile person would follow. As a preventive measure we need to build up such a conscience among all groups of the population. Proper education in school, church and homes to the real effect of alcohol would constitute a potent preventive measure. Education should, of course, be divested of unreasonable moral propaganda. Young people cannot be made to look on drinking as a sin when they see so much harmless drinking all around them; but they can be made to look on it as a dangerous practice that may lead where least expected to tragic addiction, with serious moral, social and physical consequences.

The Marihuana Problem

DR. J. D. REICHARD, Lexington, Ky.: All substances made from cannabis are, by act of Congress, narcotic drugs. Although hemp has been grown for more than a century in the United States and the flowering tops have been smoked for years, only recently has there been any concern about it. Tradition and impression, not always dependable, but worthy of consideration, suggest that the use of hemp has in the past been relatively harmless. Old persons in Kentucky report seeing colored field hands break up and load their pipes with dried flowering tops of the plant and smoke them. There was never the slightest suspicion that this procedure caused abnormal behavior. This is particularly important, since aggressive behavior by a colored person was, to put it mildly, viewed with alarm. Mr. Howland Shaw of the State Department tells me that in Asia Minor the use of cannabis was widespread but that there were no reports of resulting behavior disturbances.

Claims are made that the use of cannabis causes degenerative brain disease. No well controlled study has been published which even suggests this action. Reports that the use of cannabis has caused crime, notably a study from New Orleans, gave the impression that criminals were kidding the examiner, possibly with the hope of receiving more lenient treatment. The results of the study made in the Court of General Sessions in New York City indicated that there was no felony commitment of which was caused by the use of cannabis.

It is possible that some of the alleged harmful effects are due to autosuggestion. It is reported that in the Near East the use of cannabis produces erotic dreams and visions. No such sensations have been reported by the users with whom I have come in contact. Since it is widely believed that use of the drug lowers inhibitions, since the user expects to feel reckless and uninhibited, this expectation, and not pharmacologic action, might explain some of the "results" particularly among young persons.

I have had a feeling that the effect of cannabis resembles that of alcohol; however, behavior of subjects given pyrahexyl, apparently a synthetic analogue of cannabis, resembles more that seen under adequate sedation with morphine; i. e., quietude and peacefulness.

Juvenile Deliquency

DR. ROBERT V. SELIGER, Baltimore: Juvenile delinquency is a self defining term. Legally, in some states, it means offenses against society committed by persons from 7 to 20 years of age. The role of psychiatry is to aid society both in understanding and in working along practical lines to help cure and prevent delinquency. Failure will result in further social and individual chaos.

In America some contemporary influences that have helped produce juvenile delinquency are broken homes (due to divorce, death, alcoholism), careless or ignorant parental supervision (both parents working and inadequate or no community child care), conflict and tension producing goals in life (emphasis on "pleasure," materialistic success), inadequate church attendance and guidance, noncohesive social patterns due to historical eruptions—war, depression, inflation, racial, class and professional intolerances, and endemic mass migration of labor, with present day poor housing and lack of adequate facilities for recreational and community life.

On the constructive practical side our medical psychiatric role in juvenile delinquency should be: 1. Preventive work through Mental Hygiene. 2. To help in reorienting our culture so as to prevent development of the problem *en masse* (knowing that in spite of the best reorientation we shall always have psychiatric and other problems of human nature). 3. From an individual practical approach, to help in getting community agencies to allow psychiatric groups to interpret behavior and not just to judge conduct. 4. To remember that the term juvenile delinquency, as such, for individual treatment is only a label and that we should help the community to understand that we have situational delinquency, feebleminded delinquency, neurotic delinquency, psychotic delinquency and psychopathic delinquency —all to be further studied individually and treated, after studying the individual conscious and subconscious psychodynamics. 5. To remember that only through organized concerted action can lasting helpful results be obtained, and that, in fighting a war to help insure individual physical and spiritual security, we shall have little left to insure if our children are uncared for and so permitted to grow up into asocial, psychiatrically insecure adults and parents of tomorrow.

Selection of Prisoners for the Armed Forces

DR. JOHN W. CRONIN, Brooklyn: The approach to the selection of inmates confined to penal institutions in the armed forces resolves itself into one major question. This question is not What kind of a criminal may be admitted to the armed forces? but rather, What sort of a fellow is the person who committed the crime?

It is rather easy to decide who should not enter the armed forces. Since we at this meeting are primarily interested in the inmates of penal institutions, it is my opinion that those individuals who suffer from organic brain diseases such as brain tumor and the encephalopathies, epilepsy in any form, the feebleminded, the frankly psychotic, most psychoneurotic persons and psychopaths with habitual criminal records certainly would not do well in the armed forces and should not be admitted to them. Again, it is obvious that the sexually maladjusted and the homosexual are considered as undesirable.

Many psychopaths have been admitted to the armed forces and have made good soldiers and sailors. Their very aggressiveness, intelligence and ability to size up situations stand them in good stead, particularly when they, as individuals, are understood by their officers. A psychopath who will accept direction is certainly more desirable in the armed forces than the weak neurotic who will not accept direction from others because he is basically unable to do so. His feelings of insecurity dominate his behavior and preclude forceful and aggressive action when it is indicated.

Our Selective Service program must be carried on in such a manner as to weed out the undesirable before he is caught up in the maelstrom of wartime action, which, at its slowest, travels at a breakneck speed. If the screening program of the Selective Service can save time for the screening program of the armed forces by weeding out the unfit, much is gained.

Some Aspects of the Chronic Sex Offender

MORRIS PLOSCOWE, Chief Clerk, Court of Special Sessions, New York: In analyzing court cases of sex offenders I have come to the conclusion that, while the laws regarding sexual crimes are clear and distinct, the great majority of sex offenders are punished under misdemeanor charges rather than the felony charges which they really merit and which the law provides. The causes for this are diverse. One reason is that over 85 per cent of the sex offenders plead guilty after their defense attorney obtains for them a reduction of the felony charge to a misdemeanor. This so often occurs because the conviction of a sex offender under a felony charge is extremely difficult, particularly where the complainant's testimony requires corroboration. This practive varies from county to county, depending on the personality of the district attorney and the makeup of the grand jury, which often throws out a case on which another grand jury would indict. Indeed, many courts and grand juries will allow a plea of third degree assault, which is not a sex charge at all, when the charge should be sodomy. Many cases of rape are reduced to the charge of impairing the morals of a minor. In all of these cases reducing the charge to a misdemeanor also reduces the possible sentence from ten to twenty years to one year.

On the basis of a study made of 500 cases for a period of ten years from 1930 to 1940, it was found that the sex offender is less inclined to have a record than the offender who is charged with burglary or robbery. It was found that the real sex offender's makeup was a mixed one, a pattern of criminal disorder, rather than one of sex crime. There was a group in which one could see a definite pattern of sex crime—at least three or more convictions—but this group made up only about 5 per cent of the cases studied.

The psychiatric profession must attempt to convince the lawyer or the judge that the subject in question is not a type and must be handled as an individual. It is up to the psychiatrist to tell the authorities whether or not the offender is dangerous and if he will commit the same crime again.

Unconscious Factors in Crime

DR. GREGORY ZILBOORG, New York: That criminal acts are motivated and determined by unconscious factors is now almost self evident. The proper exposure and study of these factors is still lacking. The major reason for this deficiency is not so much the methodological defects of modern psychology as the fact that the apparatus of justice still jealously protects the criminal from searching clinical investigation. It is regrettable that prisons are not study centers of human psychology. The primitive aspects of justice being the major points of emphasis, the criminal is kept, or executed, rather than studied psychologically. He still is permitted to retain the great secret of his behavior. The prison is a most unused psychologic research laboratory. Unconscious motivations can never be revealed by means of purely formal, classificatory studies.

The assumption that the criminal is a different type of person, a deviated social being and nothing more, is a very callow one. Crime is human, and it has been practiced as long as mankind existed. Also the cultural changes of our civilization have changed our attitude toward various categories of transgressions. Crimes against property are certainly a later cultural product than murder. The interrelation between our own subjective conception of crime and the cultural trends which utilize the age long unconscious aggressions must be understood. Without this understanding crime itself cannot be understood, nor can it be cured. We can go on punishing criminals, but we cannot cure them if the prerequisites mentioned are not fulfilled.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1934 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

Alabama State Medical Assn. Journal, Montgomery

13:281-308 (March) 1944

Pilonidal Cysts and Sinuses. J. M. Mason.—p. 281.
Bromide Intoxication. F. A. Kay, D. Smith and Georgia Johnson. —p. 284.
Importance of Weight in Antepartum Supervision: Treatment of Toxemia. W. A. Cunningham.—p. 289.
Surgical Treatment of Dysmenorrhea. W. C. Simpson.—p. 291.

13:309-332 (April) 1944

Inter-American Cooperation in Health Work. A. R. Dreisbach.—p. 309.
Minority Opinion on Silicosis. O. R. Troje.—p. 313.
Allergy in Infants. W. A. Clyde.—p. 316.
*Ainhum: Review and Case Report. G. C. Ussery.—p. 319.

Ainhum.—According to Ussery, ainhum is a disease which is almost exclusively found in the dark skinned races, only 4 cases having been observed among white persons. It consists in the spontaneous amputation of the little toe by an adventitious fibrous band. Heredity does not play a role in its production. It has been confounded with congenital amputation, but ainhum is never congenital. That the disease has some connection with leprosy is insisted on by some authorities. According to Zambaco-Pocha, undoubted symptoms of leprosy are present in all cases of true ainhum. It should be looked on as an attenuated form of the latter disease. Its relation to scleroderma is explained by the fact that the latter is a special form of leprosy. It has also been attributed to syphilis, larvae and atavism. The author reports that, because of R. H. Alldredge's report in 1936, he was able to make a correct diagnosis of the disease affecting a Negro aged 71. The first indication of the disease is a furrow on the lower surface of the affected member, usually the little toe, at the proximal interphalangeal joint. The furrow, result of circumferential pressure exerted by a fibrous ring, gradually deepens until the bone is reached, this process sometimes taking several years and in some cases as long as ten. The distal portion of the toe becomes greatly hypertrophied, then drops off, the stump healing without further complications. Surgical measures alone prove of value. Early section of the fibrous ring is sometimes sufficient to arrest the progress of the disease, or division of the skin down to the periosteum may be resorted to.

American Review of Tuberculosis, New York

49:289-394 (April) 1944

Boeck's Sarcoid and Systemic Sarcoidosis (Besnier-Boeck-Schaumann Disease): Study of 35 Cases. D. Reisner.—p. 289.
Treatment of Tuberculosis with Diasone. C. K. Petter and W. S. Prenzlau.—p. 308.
Tuberculosis and Goiter. C. H. Storey.—p. 323.
Pulmonary Conditions in Rejectees: Analysis of 2,270 Selectees Rejected for Pulmonary Conditions in Induction Centers of Massachusetts. D. Zacks and R. W. Hyde.—p. 332.
Autopsies in Small Sanatorium. S. E. Simpson.—p. 343.
Pneumoperitoneum Supplementing Phrenic Paralysis. A. B. Rilance and F. C. Warring Jr.—p. 353.
War and Tuberculosis. R. G. Paterson.—p. 357.
Laryngeal Swab. E. Fraenkel.—p. 363.
The Magazine Cassette X-Ray Unit. H. R. Edwards and A. Siegel. —p. 366.
Household Tuberculosis: Report of Family Depletion. Dorothy Arenz Oppenheim and J. H. Landes.—p. 374.
Myasthenia Gravis: Case Complicating Pulmonary Tuberculosis with Artificial Pneumothorax. E. Rothstein and H. B. Pirkle.—p. 381.

Arizona Medicine, Phoenix

1:1-44 (Jan.-Feb.) 1944

Repair of Severed Tendons: New Tendon Suture. C. E. Rees.—p. 12.
Use of Dicumarol in Prevention of Postoperative Pulmonary Embolism. R. S. Flinn.—p. 20.

1:45-100 (March-April) 1944

Selecting Military Pilot. J. G. Lee.—p. 58.
New Developments in Study of Poliomyelitis. Florence Yount.—p. 61.
Kenny Treatment of Anterior Poliomyelitis in Arizona (Preliminary Report). E. R. Charvoz, E. H. Running and J. Lytton-Smith.—p. 65.
Cancer. E. P. Palmer.—p. 65.

Journal Industrial Hygiene & Toxicology, Baltimore

26:101-132 (April) 1944

Effect of Silica and Feldspar Dusts on Susceptibility to Lobar Pneumonia: Animal Experiments. Anna M. Baetjer and F. J. Vintinner. —p. 101.
Solubility of Lead Borosilicates in Tissue Fluid. P. L. Beebe and F. S. Mallette.—p. 109.
Exposure to Fluorides in Magnesium Founding. E. J. Largent and I. F. Ferneau.—p. 113.
Metal Fume Fever in Crushed Stone Industry. J. W. Hammond. —p. 117.
Industrial Noise—Its Analysis and Interpretation for Preventive Treatment. D. A. McCoy.—p. 120.
Chromic Acid Poisoning Resulting from Inhalation of Mist Developed from 5 per Cent Chromic Acid Solution: I. Medical Aspects of Chromic Acid Poisoning. N. Zvaifler.—p. 124.
Id.: II. Engineering Aspects of Chromic Acid Poisoning from Anodizing Operations. J. T. Gresh.—p. 127.

Kansas Medical Society Journal, Topeka

45:73-108 (March) 1944

Renal Calculiviscero Urologic Complex. O. W. Davidson.—p. 73.
Cancer Talks Before Lay Groups. J. L. Lattimore.—p. 74.

45:109-160 (April) 1944

Proposed Kansas Physicians' Service. B. A. Nelson.—p. 127.

Military Surgeon, Washington, D. C.

94:189-242 (April) 1944

Health Work in Hemisphere Development. G. G. C. Dunham.—p. 189.
War Neuroses. E. A. Strecker.—p. 196.
Some Factors Affecting Incidence of "Bends" at Altitude. J. F. Fulton. —p. 199.
Technic of Self Preservation. B. Groesbeck.—p. 201.
Conversion of Cruiser into Temporary Hospital Ship. G. W. Smith. —p. 204.
Initial Care of Wounds from Reconstructive Viewpoint. J. L. Gallagher. —p. 212.
Submarine Sailor. C. W. Shilling.—p. 216.
Anesthesia at Front. C. F. McCuskey.—p. 218.
Parachute Injuries. W. J. Tobin.—p. 222.
Desert Hospital. A. E. Porritt.—p. 224.
New Methods with Burns. A. E. Porritt.—p. 227.
Galvanized Tin Sitz Bath. H. M. Carney.—p. 229.

New England Journal of Medicine, Boston

230:419-444 (April 6) 1944

Perforation of Ileum Following Late Ileostomy for Ulcerative Colitis. J. H. Crandon, T. D. Kinney and I. J. Walker.—p. 419.
*Acute Pericarditis Simulating Myocardial Infarction. L. Wolff.—p. 422.
Diabetes Mellitus. E. P. Joslin.—p. 425.

Acute Pericarditis Simulating Myocardial Infarction.—During the past year Wolff has observed 5 cases of pericarditis, in 4 of which a mistaken diagnosis of acute myocardial infarction had been made. The distinguishing feature of the pain of pericarditis is its accentuation by bodily movements, cough and inspiration. In most cases of myocardial infarction a friction rub is never heard; when present, it is rarely heard in the first twenty-four hours, is usually localized and lasts only a short time. In acute pericarditis the rub is heard within one to a few hours after onset of pain, tends to be loud, is audible over the entire precordial area and is present for days or weeks. Pleural involvement is demonstrated in pericarditis by the presence of a pleural friction rub or by thickening of the pleura and a small collection of pleural fluid. The heart dilates in some cases of acute pericarditis to a degree that exceeds that seen in myocardial infarction; nevertheless, myocardial failure does not occur in acute pericarditis. In 75 per cent of the cases of myocardial infarction, fluoroscopy disclosed a localized area

of diminished, absent or reversed ventricular pulsations. No abnormalities of the sort were demonstrable in pericarditis. In the electrocardiogram of pericarditis elevation of the RS-T segment is not accompanied by reciprocal depressions, the ascending limb of the T wave is straight or concave upward or the T wave is dome shaped, significant QRS patterns do not occur, and the evolution of the entire pattern with reversion to normal takes place in a matter of weeks. Multiple chest leads should be used in myocardial infarction. The temperature elevation in pericarditis is much higher and lasts longer, the pulse is slower and the leukocytosis is greater than in infarction. The average age of patients with pericarditis is lower than that of patients with myocardial infarction. Respiratory infection or a "grippy" feeling is more often associated with pericarditis than with infarction. It is important to make the correct diagnosis, since in pericarditis prolonged and careful treatment is not necessary and the prognosis is excellent, in contrast with the seriousness of myocardial infarction.

New York State Journal of Medicine, New York

44:673-832 (April 1) 1944

Diagnosis, Treatment and End Results in Malignant Tumors of Nasal Sinuses. G. A. Robinson.—p. 713.
Hotel Outbreak of Gastroenteritis Due to Salmonella Derby. F. E. Coughlin.—p. 718.
Use and Abuse of Bed Rest. H. Gold, W. Dock and others.—p. 724.

44:833-944 (April 15) 1944

Primary Atypical Pneumonia: I. A Statistical Report of 196 Cases. N. S. Moore, H. B. Wightman and E. C. Showacre.—p. 869.
Id.: II. Observations of Radiographic Patterns. E. C. Showacre, H. B. Wightman and N. S. Moore.—p. 872.
Cancer Reporting in New York State. M. L. Levin.—p. 880.
Thoracolumbar Sympathectomy in Essential Hypertension. J. W. Hinton. —p. 884.
Diagnosis: Clinicopathologic Conferences. Fourth Medical Division of Bellevue Hospital.—p. 889.
Administrative and Professional Problems of Medical Practice in the Hospital. A. M. Shwitalla.—p. 894.

North Carolina Medical Journal, Winston-Salem

5:81-120 (March) 1944

Roentgen Rays in Treatment of Nonmalignant Disease. L. W. Ochlbeck.—p. 81.
X-Ray and Radium Therapy in Lesions About Eye. R. J. Reeves. —p. 85.
Use of Mineral Oil by Mouth and by Bowel. C. A. Anderson, G. L. Carrington and R. E. Brooks.—p. 87.
Simplification of Method of Electrical Examination and Therapy of Nerves and Muscles. H. de Jong.—p. 91.
Peripheral Circulatory Failure: Its Mechanism and Treatment in Medical Disorders. F. B. Marsh.—p. 93.
Present Day Knowledge of Penicillin. E. S. Faison.—p. 97.
Postpartum Sterilization: Indications and Advantages. F. R. Lock and R. C. Forman.—p. 101.
Thumbnail Sketches of Eminent Physicians. J. C. Trent.—p. 103.

Northwest Medicine, Seattle

43:97-128 (April) 1944

Breast Tumors and Clinical Differentiation. G. Kunz Jr.—p. 101.
Role of Roentgen Therapy in Treatment of Carcinoma of Breast. F. J. Rigos.—p. 105.
Surgery of Breast Tumors. C. B. Ritchie.—p. 106.
Care of Colostomies. W. B. Hutchinson.—p. 107.
*Hydronephrosis in Infants. A. H. Peacock.—p. 110.
Surgical Treatment of Massive Gastroduodenal Hemorrhage. T. T. Manzer.—p. 112.
Transportation of Semen Specimens. W. M. Whitehead.—p. 113.
Nervous Reactions in Naval Wartime Personnel. J. M. Hill.—p. 114.
Tuberculosis Rate in Western State Hospital. R. W. Brown.—p. 116.

Hydronephrosis in Infants.—According to Peacock, urinary obstruction resulting in hydroureter and hydronephrosis is not a condition limited to adults. Congenital anomalies, as phimosis, stricture of the meatus or urethra, hypertrophied verumontanum, contracture or hypertrophy of the bladder neck, and valves or folds of the posterior urethra, have caused serious obstructions in infants. In the upper urinary tract congenital obstructions are caused by aberrant vessels, strictures of the ureter, valves, kinks and unusual insertions in the pelvis. Congenital hydronephrosis frequently escapes detection, only to be an acute problem in later years. In taking the history of adults suffering with urogenital disease, it is often found that the symptoms go back to childhood or early youth. In all patients suffering with recurring pyuria, irrespective of their age, a complete urologic survey should be made. The author presents 2 case reports to illustrate the effect of obstructive urinary anomalies in infants. Fever, pyuria, malnutrition and gastrointestinal disturbance, especially when recurring, are suggestive of urinary tract disease. Distention of the lower abdomen in infants can be caused by retention of urine in the bladder. All obstructions of the urinary system in infants and children should be corrected as early as possible to prevent irreparable renal destruction.

Pennsylvania Medical Journal, Harrisburg

47:641-768 (April) 1944

*Hormonal Tumors of Adrenal Gland. G. F. Cahill.—p. 655.
Post-Transfusion Hemolytic Reactions. M. M. Strumia.—p. 668.
Malignant Cystadenoma of Ovary with Pleural Effusion (Meigs Syndrome). H. B. Anderson.—p. 671.
Prevention of Bronchiectasis. L. H. Clerf.—p. 676.
Chart of Normal Growth. J. H. Barach.—p. 681.
Analysis of Five Year Incidence of Premature Births. L. F. Ritmiller and R. E. Nicodemus.—p. 690.
Hearing Aids. W. Hughson.—p. 694.
Planned Search for Foci of Infection in Chronic Disease as Means of Increasing Span of Life, with Particular Reference to Gastrointestinal Tract. W. W. Lermann.—p. 699.
Medical and Surgical Masquerades of Depressed State. R. Denison and J. C. Yaskin.—p. 703.
Cardiovascular Survey of Supervisors: II. P. M. Rike and F. J. Gregg. —p. 708.
Psychoses in Offiers in World War II. A. M. Duval.—p. 712.

Hormonal Tumors of Adrenals.—Cahill reviews cases of adrenal tumors that were observed at the Squier clinic at the Presbyterian Hospital of New York City. Girls may present changes toward adult masculinity. Five children of this type have been studied. The condition of all began with hypertrophy of the clitoris, the appearance of hair on the genitals, excessive body growth, increase in musculature, deepening in voice and accelerated development. Androgens were demonstrated in the urine. Air insufflation roentgenograms showed the adrenals clearly. Four children had apparently a bilateral increase in size. Operative explorations showed female internal organs. Section of the adrenals showed an apparent age acceleration in the adrenal zones and cells. None of these children have shown evidence of adrenal tumor. Changes toward masculinity may also appear in adult females. Male secondary sex characters occur, and there is a repression of female characteristics. Hirsutism is the first change noted, followed by irregularity or cessation of the menses, changes in the body contour and enlargement of the clitoris. At the author's clinic several hundred of such women have been observed, and it has been found that the anatomic condition of the adrenal gland often bears no relation to the type or severity of the symptoms. Tumor is not a frequent cause of the syndrome. Five male children with prematurity were studied. Only 1 of these showed an enlargement of one adrenal, but this was not operated on and thus not confirmed. Tumors with excess of estrogens apparently are the rarest of all the hormonal tumors of the adrenal. Only 6 cases of tumors with excess estrogens producing changes in the adult male toward femininity have been reported. The author has seen 1 case. From cases reported in the literature it appears that the adrenal was responsible for the feminization. In neither of the 2 patients who recovered after removal of the tumor did adrenal deficiency occur. The author studied 3 cases with tumors due to excess androgens and other hormones. The first had effects of excess androgens and moderate other metabolic disturbances. The second had sexual changes and other metabolic changes. The last had moderate sexual changes and pronounced general metabolic changes. In these the demonstration of the tumor by air insufflation was less clearly defined, as fatty deposits and edema developed. The operative results show that apparently, with the excess of metabolic hormones produced by the tumor, hypofunction and atrophy occur in the opposite adrenal. Tumors of the adrenal medulla that produce hormones are rare. When an abnormal number of pheochrome cells are produced, as in a tumor, the formation

has been called pheochromocytoma. Such a tumor gives rise to paroxysmal hypertension. If patients with these tumors survive the operation, the prognosis is good because most of these tumors are benign.

Public Health Reports, Washington, D. C.

59:317-356 (March 10) 1944

Reportable Diseases: Disease and Conditions Required to Be Reported in the Several States. W. Fowler.—p. 317.

59:357-384 (March 17) 1944

Problems Created by Returning Malaria Carriers. S. B. Freeborn.—p. 357.
Sickness Absenteeism Among Industrial Workers Third Quarter of 1943. W. M. Gafafer.—p. 363.

59:385-416 (March 24) 1944

Plague: Sulfadiazine Treatment of Guinea Pigs Infected by Artificial Methods or by Flea Transmission. N. E. Wayson and Margaret C. McMahon.—p. 385.
Complement Fixation in Rickettsial Diseases—Technic of Test. Ida A. Bengtson.—p. 402.

59:417-448 (March 31) 1944

Action of Penicillium Extracts in Experimental Tuberculosis. M. I. Smith and E. W. Emmart.—p. 417.
Entomologic Phases of Recent Dengue Epidemic in Honolulu. R. L. Usinger.—p. 423.
Effect of Synthetic Marihuana-like Compound on Musical Talent as Measured by Seashore Test. C. K. Aldrich.—p. 431.

Southern Medical Journal, Birmingham, Ala.

37:187-250 (April) 1944

Surgical Reconstruction Following Serious Burns. V. E. Siler.—p. 187.
Method for Fusion of Wrist. P. C. Colonna.—p. 195.
Etiology and Surgical Treatment of Lung Abscess: Importance of Lobectomy. O. C. Brantigan and E. A. Looper.—p. 199.
*Vitamin C in Peripheral Vascular Failure: Results of Recent Studies. Ellen McDevitt, A. W. Duryee and B. E. Lowenstein.—p. 208.
Therapeutic Value of Thermolabile Factor Found in Fats, Particularly Lecithins in Dermatoses. F. M. Pottenger Jr.—p. 211.
Experiences with Photoroentgen Method in Chest Surveys: Analysis of 100,000 Examinations. R. E. Lee, A. Fine and T. B. Steinhausen.—p. 217.
Syphilis Control in Wartime. J. R. Heller Jr.—p. 219.
Retinal Detachment Seen in Army General Hospital. E. R. Veirs. p. 224.
Evaluation of Excretory Urography in General Practice. B. H. Nichols.—p. 226.
Neurologic Emergencies. C. D. Aring.—p. 230.
Heart in Pregnancy: Prognostic Aspects. W. A. Sodeman and E. L. King.—p. 235.
Acute Dermatitis of Hands Due to Handling and Dressing Wild Rabbits. E. R. Tyler.—p. 240.
Education of House Staff Now and After War. F. R. Bradley.—p. 240.

Vitamin C in Peripheral Vascular Failure.—According to McDevitt and her associates, Ungar has reported considerable improvement in the life expectancy of shocked animals if these animals are treated promptly with large doses of the sodium salt of ascorbic acid parenterally. The authors made experiments designed to confirm his work and to extend the observations of the relationship of vitamin C to peripheral vascular failure. The first experiments utilized normal and scorbutic guinea pigs. The effect of trauma was studied in single episodes and later by repeated injuries inflicted over periods of several days. Animals were fed massive doses of vitamin C before trauma and after trauma. The second experiment was the study of the blood plasma vitamin C levels at the time of operation and for five days postoperatively on patients who had had serious operations. Finally, the third group of studies was concerned with the estimations of the vitamin C blood plasma levels in normal persons and patients with peripheral vascular disease. The reported observations indicate that vitamin C plays a role in traumatic shock. Animals with a low vitamin C intake are more susceptible to traumatic shock than are those on a normal diet. Repeated trauma in scorbutic animals will not increase resistance to shock to the same degree possible in pigs with normal intake of vitamin C. Repeated trauma in animals with normal vitamin C intake will increase resistance to traumatic shock. The use of massive doses of vitamin C immediately after trauma will increase the survival time of animals but does not lower the mortality rate. Since the vitamin C level in major surgery diminishes postoperatively, preoperative intravenous administration of vitamin C might be of value in preventing shock. The authors also stress the need of adequate vitamin C intake by soldiers preparing for battle or actually in combat. The authors believed that if the circulation in an extremity was subnormal there might be some decrease in the vitamin C level of the circulating blood in the involved extremity. It was found that the normal levels of 0.7 to 1.2 mg. per hundred cubic centimeters were not always necessary for apparent health. Observations on persons with peripheral vascular disease indicate that there is no essential difference between the arterial and the venous plasma vitamin C level but that the vitamin C in the venous blood plasma of persons with varicosities is slightly less in the lower extremities than in the upper. Whether this difference is significant is not known.

Texas State Journal of Medicine, Fort Worth

39:559-602 (March) 1944

Surgical Diseases of Large Intestine. H. R. Dudgeon.—p. 567.
Regional Ileitis: Report of Case, with Its Surgical Treatment. G. Q. Adams.—p. 570.
Thromboangiitis Obliterans. J. Uttal.—p. 579.
Typhus Fever. H. E. Griffin.—p. 581.
American Way of Life. Mrs. A. B. Pumphrey.—p. 584.

39:603-646 (April) 1944

Traumatic Injuries, Diagnosis and Treatment. E. V. Benbow.—p. 610.
Prolapse of Uterus. W. H. Rumpf.—p. 614.
Management of Acute Head Injuries. H. Ledbetter.—p. 617.

United States Naval Med. Bull., Washington, D. C.

42:763-1008 (April) 1944. **Partial Index**

Intervertebral Disk Problem in Navy. F. K. Bradford.—p. 763.
Hemilaminectomy Technic for Herniated Lumbar Disks. D. H. Werden.—p. 776.
Fractures of Transverse Processes of Lumbar Vertebrae. J. T. Nicholson and J. H. Allan.—p. 780.
Treatment of Acute Knee Injuries: with Special Attention to "Weak Knee" Syndrome. C. R. Carr and G. E. Haggart.—p. 787.
Injuries of Semilunar Cartilages of Knee. T. H. Peterson and J. J. Lille.—p. 798.
Eye Casualties Treated on Hospital Ship. H. P. Schenck, L. E. Silcox and E. W. Godfrey.—p. 802.
Experience with Brain Injuries in Pacific. H. Hamlin.—p. 822.
*Experience in Treatment of Burns: From South Pacific Area. H. R. Yandell.—p. 899.
Burn Treatment at Sea. P. F. Czwalinski.—p. 838.
A Tablet Emergency Ration for Lifeboats and Rafts. A. C. Ivy, P. H. Futcher, W. V. Consolazio, Nello Pace and Elizabeth J. Gerrard.—p. 841.
Comparison of Four Routine Procedures in Treatment of Acute Catarrhal Fever. J. J. Short, L. O. Toomey, E. W. Schoenheit, F. R. Smith Jr. and G. W. Slagle.—p. 848.
Safe Universal Blood. M. D. Willcutts and R. A. Hicks.—p. 852.
Epidemic Dengue: Its Abortion in Combat Area. M. A. Zeligs, O. Legant and E. H. Webster.—p. 856.
*Mumps Meningitis. S. Candel, M. C. Wheelock, J. P. Turk Jr. and J. L. Smoot.—p. 861.
Pooled Plasma Treatment of Mumps Orchitis. A. C. Rambar.—p. 871.
Sporadic Meningococcus Meningitis. D. H. Vance, T. Scott and H. C. Mason.—p. 874.
Prevention of Chronic Empyema. J. D. Cuono.—p. 879.
Generalized Vaccinia and Vaccinial Reaction. W. Director.—p. 884.
Headaches—Tension Type. J. Victor Jr.—p. 890.
"Blind Staggers." J. D. Teicher.—p. 892.

Treatment of Burns in South Pacific Area.—Yandell reports 200 cases of burns observed in a naval hospital of the South Pacific area. The great majority of the patients arrived in good general condition from two to two and one-half weeks after injury. The incidence of infection was highest, namely 44 per cent, in the cases treated with tannic acid jelly alone. When tannic acid jelly treatment was combined with the application of sulfonamides the incidence of infection was reduced to 20 per cent, but only 15 per cent were infected when sulfonamides were used alone. The incidence of infection also increased with the depth of the burn. Seventy-one per cent of the extensive third degree burns but only 18 per cent of the second degree burns were infected. The fact that 88 per cent of the men with tannic acid treated third degree burns developed infection shows the inadvisability of treating serious burns with

tannic acid preparations. The effect of sea water on burns is proved by the fact that of the 73 men who had been in the sea 22 per cent developed infections, whereas of those not exposed to sea water 37 per cent developed infection. For the treatment of infected burns the author recommends the local application of sulfanilamide powder and continuous moist saline dressings. When a patient with an infected burn is admitted, all the necrotic skin and sloughing tissue is excised. Soaks in azochloramid solution (1:10,000) are helpful in removing slough and pus. Unless the products of proteolysis are removed the sulfonamides have little local effect. The sulfonamides used locally in combination with the chlorine antiseptics are more efficient than when used alone. The danger of overabsorption of sulfonamides, which is always a possibility in a fresh burn, does not exist to such an extent on the granulating surface of an old burn. Following the daily application of sulfonamide powder, the areas are covered with strips of fine mesh gauze and moistened with warm sterile isotonic solution of sodium chloride. Recently Callahan's suggestion of applying autoclaved absorbent cleansing tissues has been followed. This material is superior to fine mesh gauze. A burn pad which consists of several layers of ordinary gauze, a layer of cellucotton and a layer of wax paper can be readily opened and the inner gauze and cellucotton moistened with saline solution without removing the pad. If the burn pads are saturated every four hours, day and night, the wounds may be kept moist without contamination and with a minimum of effort. The author lists measures to be taken after infection subsides, preparatory to skin grafting and after the grafting operation. He also stresses the great importance of general treatment, particularly of plasma therapy.

Mumps Meningitis.—Candel and his collaborators state that spinal fluid cell counts above 10 are generally regarded as abnormal. In a disease in which typical meningitis is not an unusual complication the mere finding of a pleocytosis in the spinal fluid, whether or not it is accompanied by signs or symptoms, must be considered likewise as a meningitis. They made a careful study of 38 cases of mumps and found that 79 per cent of these patients had meningitis on the basis of an increased number of cells in the spinal fluid. Fifty-three per cent of the patients had subclinical meningitis. Twenty-six per cent, that is, 10, of the patients had clinical meningitis in either a typical or an atypical form. The patients with typical meningitis had headache, stiff neck, fever and high cell count. There were two atypical forms of meningitis. The patients with the first form showed sudden elevation of temperature and pleocytosis. The second atypical form was characterized by a low grade fever beginning often on the seventh day and continuing through the tenth day. In 2 of the patients with meningitis the meningitic symptoms appeared simultaneously with the parotid swelling, and in 8 it appeared after the parotitis. Mumps meningitis may precede the parotid swelling. It may also occur without the parotid swelling, and it may be followed by orchitis. Under such conditions the diagnosis of mumps meningitis presents some difficulty.

War Medicine, Chicago

5:129-202 (March) 1944

Hysterical Visual Defects. P. T. McAlpine.—p. 129.
Civilian Physician in Uniform. T. M. Downs.—p. 133.
*Music as Modality of Occupational Therapy.. A. F. Fultz.—p. 139.
Psychologic Armoring for Air Forces. W. G. Barrett.—p. 142.
Clinical Significance of Extramural Psychiatry in Army. A. Eisendorfer.—p. 146.
Reactions to Sulfonamide Compounds: Review of 186 Cases. T. F. Frist.—p. 150.
Ballistocardiographic Studies of Draftees Rejected for Neurocirculatory Asthenia. I. Starr.—p. 155.
Electroencephalography in Army General Hospital. D. Silverman. p. 163.

Music in Occupational Therapy.—According to Fultz, musical activity is accepted as a constituent part of occupational therapy. It is included in the curriculum of a school of occupational therapy under the heading of "Recreation." Since music is a fine art, it is also proper to consider it as part of the category of "Therapeutic Arts and Crafts." Discussing the use of music in orthopedic patients, the author shows that many musical instruments can be used for the rehabilitation of movements of the wrist and the elbow. The drum, concertina, cymbals or trombone can be employed for movements of the shoulder. Pedaling or playing specially constructed keyboards similar to the pedal keyboard of an organ can be used for movements of the lower extremities. The author also demonstrates the psychologic values of musical activity for patients with rheumatic fever. The following music making devices have proved practical for such patients: 1. Dulcitone: A keyboard instrument played like a piano, in which the tone is produced by hammers striking horizontally suspended tuning forks. The instrument is portable, is easily lashed to a bed table and can be played by the patient without his leaving his bed. 2. Tonette: A small but musically extensive flute producing good ensemble effects and inexpensive. 3. Glasses: A set comprising twelve heavy duty beer glasses or "tunable tumblers." After one glass is tuned with cold water up to a certain mark, the others are then tuned in relation to it. 4. Reed organ: The "Liberty" pipeless pipe tone portable organ, with five octaves and a wide range of loudness. Its sustained melodies enrich the tune played by patients on tonettes or glasses. Patients with injuries of nerves may be benefited by the same type of musical activity as are orthopedic patients. Musical activity can be used for psychiatric patients as a means of emotional reeducation. The use of music as a modality of occupational therapy is most nearly ideal when the patient is not too conscious that therapy is being administered. In view of the inadequate number of occupational therapists, the author suggests that musicians might well be trained in the principles of occupational therapy.

Yale Journal of Biology and Medicine, New Haven

16:267-394 (March) 1944

English Medical Licensing in Early Seventeenth Century. J. H. Raach.—p. 267.
*Diagnosis of Carcinoma of Right Colon. G. J. Connor and S. C. Harvey.—p. 289.
Pathogenesis of Diabetes Mellitus. F. D. W. Lukens.—p. 301.
Histamine Tolerance. R. Katzenstein.—p. 325.
Specific Tuberculosis Immunity During Infection. H. J. Corper and M. L. Cohn.—p. 333.
Hermaphroditism in Rodents, with Description of Case in Mouse. C. W. Hooker and L. C. Strong.—p. 341.
Meaning of Bioelectric Potentials. H. S. Burr.—p. 353.
Effect of Adrenotrophic Hormone of Anterior Pituitary on Cholesterol Content of Adrenals: With Review of Literature on Adrenal Cholesterol. G. Sayers, M. A. Sayers, Edith G. Fry, A. White and C. N. H. Long.—p. 361.

Diagnosis of Carcinoma of Right Colon.—Connor and Harvey analyze the diagnostic data in 50 cases of carcinoma of the right colon observed in the surgical service of the New Haven Hospital. All of the patients were operated on. In 44 cases (88 per cent) the tumor was removed and a diagnosis of carcinoma was made. In 6 cases (12 per cent) the tumor was judged to be nonresectable; in 2 of these cases autopsy revealed the disease to be carcinoma; in the 4 remaining cases the gross pathologic changes observed at operation were typical of carcinoma. Abdominal discomfort and weakness are common manifestations of carcinoma of the right colon. A change in the bowel habit, however, cannot be relied on to direct attention to carcinoma of the right colon, since in this series 36 per cent of the cases showed no such change. A gross change in the character of the stools was not common. The presence of occult blood in the stools was demonstrated in 75 per cent of the cases in which this examination was made. Intestinal obstruction is, in general, not frequent in carcinoma of the right colon unless the ileocecal valve is involved. It may then be an early manifestation of the disease. A palpable abdominal tumor was noted in 82 per cent of the resectable cases in this series. Mild tenderness was frequently present in the region of the tumor. The majority of cases showed evidence of secondary anemia, but the degree of the anemia was of little assistance in evaluating the extent of the tumor. In 8 of the 50 cases the correct preoperative diagnosis of carcinoma of the right colon was not made.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Dermatology and Syphilis, London

56:33-58 (Feb.) 1944

*Textile Dermatitis. J. H. Twiston Davies and A. Neish Barker. —p. 33.

Textile Dermatitis.—Davies and Barker state that of 670 admissions to the skin wards of a large military hospital 110 (16.4 per cent) concerned dermatoses proved by patch tests and the observed effect of resuming khaki clothing to be wholly or partly due to intolerance by the skin of contact with woolen textiles. The first persons affected were discovered among patients repeatedly referred for treatment of scabies. The cutaneous manifestations included pruritus, erythema, erythematous dermatitis, eczematoid dermatitis, lichenification, facial eczema, prurigo simplex and prurigo simulating scabies. The author believes that all of the described types of eruption are mainly referable to intolerance of the skin to wool. Treatment consists primarily in removal of the irritant. The patient sleeps between sheets, has a cotton or linen shirt and wears cotton pajamas by day under his hospital blues. Simple remedies, such as calamine liniment or lotion, are no less efficacious than elaborate ones. Pyodermic lesions, such as furuncles and ecthyma, are covered with disks of elastoplast, and when eczema is present it is treated as such. Cases of long standing, with strongly positive patch tests, especially those giving positive reactions to several kinds of woolen material and to other substances as well, must be regarded as incurable. Men with mild lesions of the pseudoscabious prurigo type recover slowly when protected by cotton and excused from heavy physical exertion. Patients with moderately severe lesions do not lose their symptoms or rash completely, but if protected by cotton they may be returned to duty without necessarily becoming worse. As a general rule they relapse and have to be invalided.

British Medical Journal, London

1:349-382 (March 11) 1944

*Toxic Effect in Women Exposed to Industrial Rubber Solutions. J. L. Hamilton-Paterson and Ethel Browning.—p. 349.
*Sulfonamides in Ophthalmia Neonatorum. A. Sorsby and Elizabeth L. Hoffa.—p. 253.
Blood Pressure in Midwifery. W. Radcliffe.—p. 354.
Nervous Breakdown in the Navy: Domestic Difficulties as Causal Factor. G. Tooth.—p. 358.
Tonic Action of Strychnine. W. F. Anderson.—p. 360.

Toxic Effects of Rubber Solutions.—Hamilton-Paterson and Browning report results of two years' investigation of the effects of industrial rubber solutions on workers using them. Most of the workers are women. The solutions contain varying amounts of benzine and, of the aromatic hydrocarbons, benzene, xylene and toluene. The examinations were carried out in thirteen factories scattered over the country. The investigation has been conducted in two parts. In the first, sample groups in each factory, totaling 200 women, were clinically examined and had blood counts made. These counts have been compared with the counts of 200 control women. In the second part of the investigation all the women working in one factory have been similarly compared with a group of women in the same factory who had never been in contact with rubber solution. The effects of "rest" were also studied. An analysis of the results shows that the earliest and most striking changes caused by benzene absorption in the blood are leukopenia and neutropenia. There is no correlation between the symptoms complained of and the onset of hematologic changes. This is important, because clinical examinations alone are probably useless for the specific detection of early cases; they have great value in the diagnosis of cases of deterioration in health due to other causes. The authors suggest that, by regular white cell counts and by suitable periods of "rest," chronic benzene poisoning might be averted. The periods of "rest" consisted of several months of work away from the rubber solutions. The substitution of a relatively nontoxic solvent such as solvent naphtha would render hematologic control of the worker unnecessary; but as long as benzene is used it is advisable that the persons exposed should be given the protection of routine blood examinations. The excretion of increased amounts of organic sulfates in the urine is a feature of severe benzene poisoning, but in this investigation this was not observed. Benzene will produce hematologic changes before it is excreted in significant amounts.

Sulfonamides in Ophthalmia Neonatorum.—In an earlier report Sorsby and Hoffa had given an account of the value of the administration of sulfapyridine in 273 cases of ophthalmia neonatorum. By comparison with 46 cases treated by the classic local methods, it was concluded that sulfapyridine was a revolutionary advance and that the classic methods of local therapy no longer had any place in the treatment of ophthalmia neonatorum. The present paper deals with a further 258 cases. Of these 133 were treated with sulfapyridine, 43 with sulfathiazole, 28 with sulfamezathine, 31 with sulfadiazine and, in the residual group of 23, more than one of these sulfonamides were used as the cases proved resistant or intolerant to the drug employed initially. Clinical cure was obtained within eight days in 85.7 per cent of the 258 cases. There was no appreciable difference in the action of the four sulfonamides used. Gonococcic cases responded more rapidly to sulfonamide therapy than did the nongonococcic cases. Inclusion bodies were found in 27 instances: twice in association with organisms and 25 times without such association. These cases responded well to sulfonamide therapy. Only exceptionally is a case completely resistant to sulfonamide therapy. It is more a matter of sluggish response than of total resistance. The routine at White Oak Hospital now includes administration of the sulfonamides for three days after clinical cure; fewer relapses are now observed.

Medical Journal of Australia, Sydney

2:513-532 (Dec. 25) 1943

Mosquito: Teacher of Medicine. S. F. McDonald.—p. 513.
Kline Reaction of Nauruan Lepers and Nonlepers. L. A. Windsor-McLean.—p. 520.

1:81-100 (Jan. 29) 1944

Remarks Concerning Vitamin Deficiency in Australian Adult. K. Maddox.—p. 81.
*Cutaneous Reaction to Influenza Viruses. W. I. B. Beveridge and F. M. Burnet.—p. 85.

1:101-120 (Feb. 5) 1944

Laboratory Investigation of Renal Function. Vera I. Krieger.—p. 101.
Incidence of Tetryl Dermatitis, or C. E. Rash: Review of Investigations Carried Out in Australian Fuse-Filling Factories. H. M. L. Murray, R. W. Prunster and R. D. Anderson.—p. 104.
Record of Commoner Skin Diseases at Royal Australian Air Force Hospital. B. N. O. Colahan.—p. 107.

Cutaneous Reaction to Influenza Viruses.—In the work of intranasal immunization against influenza, Beveridge and Burnet occasionally observed symptoms which suggested that an allergic reaction was being produced. This induced them to undertake experiments on the effects produced when influenza virus antigens in the form of specifically infected allantoic fluid or modifications of it were injected intradermally in normal subjects. In order to determine whether the reaction was a specific response to influenza virus antigens, it was desirable first to show that it was not produced by material known not to contain influenza virus and, secondly, to show that purified or partially purified influenza virus retained the power to provoke the reaction. It was found that intradermal inoculation of a 1:10 dilution of unheated or boiled allantoic fluid infected with influenza virus A or B produces a cutaneous reaction in most adults and in some children. Similar reactions are not produced by normal allantoic fluid or by suspensions of chick tissue containing from ten to twenty times as much protein as the influenza reagent. Partial purification of the virus does not diminish its capacity to produce reactions. In adults the size of the reaction bears no correlation to the serum antibody titer. Among 31 children tested intradermally with influenza A and B reagents there were eighteen reactions, and in all but 1 instance the children were shown by serologic test to have been infected in the past by the corresponding viruses. However, many children who gave positive reactions to serologic tests failed to give appropriate skin reactions. The suggestion is made that allergy to the virus may play a part in resistance to infection and, when infection does occur, in the production of symptoms.

Book Notices

Traumatic Injuries of Facial Bones: An Atlas of Treatment. By John B. Erich, M.S., D.D.S., M.D., Consultant in Laryngology, Oral and Plastic Surgery at the Mayo Clinic, Rochester, Minn., and Louie T. Austin, D.D.S., F.A.C.D., Head of Section on Dental Surgery at the Mayo Clinic. In collaboration with Bureau of Medicine and Surgery, U. S. Navy. Cloth. Price, $6. Pp. 600, with 333 illustrations. Philadelphia & London: W. B. Saunders Company, 1944.

This book covers almost every conceivable injury to the bones of the face, with specific details of the authors' conception of the treatment of each. The first chapter is devoted to general considerations common to the care of all injuries of the facial bones, including treatment of hemorrhage and shock, establishment of an airway, provision of adequate drainage and principles of fixation. It is gratifying to note the authors' restrained enthusiasm for the use of external pin fixation appliances in the treatment of fractures of the mandible. Fractures of the mandible, of the maxilla, of the malar bones, of the nasal bones and of both jaws and multiple facial fractures are then discussed in a systematic manner, each type being presented in the form of a problem in which the specific treatment is given. The last few chapters are concerned with defects of the mandible requiring bone grafting, restoration of contour in defects of the facial bones by means of skin, bone and cartilage grafts and prosthetic appliances, construction of plaster head casts, details of interdental wiring and splint construction. The illustrations, some in color, are above criticism and clarify every step described in the text. This is undoubtedly the most important book on the subject that has appeared so far and should be in the hands of every one concerned, surgeon or dentist, military or civilian, who is called on to treat injuries of the face and jaws.

Soybeans from Soup to Nuts. By Annie Williams-Heller, Nutrition and Food Consultant, and Josephine McCarthy, Home Economics Director, American Institute of Food Products. With a foreword by Walter H. Eddy, Ph.D. Cloth. Price, $1.25. Pp. 119. New York: Vanguard Press, Inc., 1944.

This is a little book full of suggestions for working that valuable food the soybean into a tasty dish on any part of the menu. Designed for the housewife to help stretch the wartime shortage of the staple foods with which she is familiar, it first attracts the interest with a brief description of the history and Chinese background of the soybean and then with a brief discussion of its nutritional merit commands appreciation for this vegetable. It is of interest to learn that there are more than a hundred edible varieties of soybean, although relatively few are in common use. As shown in a chart and table, an average serving of soybeans has a considerably greater nutritional value than a comparable amount of other types of beans or steak. These comparative values are accurate representations of the facts but fail to acknowledge the superior quality of the meat protein. The adaptability of this bean to utilization as a food in numerous forms increases its usefulness. In such forms as fresh green beans, dried beans, sprouted beans, flour, flakes, oil or milk it lends itself to varied use in the diet. Directions for the actual preparation of these types of soybean dishes are given. The greatest portion of the book is taken up with recipes which incorporate soybeans in one form or another into any number of menu dishes. These are designed with economy and wartime restrictions in mind and should serve to help introduce a very suitable food into the family menu.

Maurice Arthus' Philosophy of Scientific Investigation: Preface to De l'anaphylaxie à l'immunité, Paris, 1921. Translated from the French, with an introduction by Henry E. Sigerist. Foreword by Warfield T. Longcope. Reprinted from Bulletin of the History of Medicine, Volume XIV, Number 3, October 1943. Boards. Price, 75 cents. Pp. 26. Baltimore: Johns Hopkins Press, 1943.

In the introduction to this reprint Dr. Sigerist gives a brief but impressive account of Maurice Arthus as a teacher and experimental physiologist. The preface, which is ably translated, eloquently advocates the methods and principles of experimental research introduced by Claude Bernard, practiced by Louis Pasteur and by Arthus himself. Arthus felt compelled to do all he could to pass these methods and principles on to his students and followers. His analysis of the experimental method, his insistence on thoroughness, independence and originality will guide and sustain the beginner in research. It is fortunate that "this unique piece of medical literature" now is easily available.

Case Histories in Abnormal Psychology. Assembled by Calvin P. Stone, Department of Psychology, Stanford University. Paper. Pp. 98. Stanford University, Calif.: Stanford Bookstore, 1943.

This paper volume, without index, is simply a presentation of approximately 90 cases culled from the work of some twenty-four authors. The case histories are headed with the diagnosis, the type of condition which they describe. The entire material is divided into seven chapters. However, there is no discussion of the case histories, no dynamic consideration of the material. In fact, the work is simply a compilation of case descriptions with a great variation in manner of presentation depending on the source of the material. The function of such a book is extremely questionable. The assemblage of case histories grew out of the author's desire to supply classes in army psychology with a variety of abnormal reaction types. The need of army psychologists for such material when their function is concerned with classification and various aptitude tests is dubious. The author surely does not intend that these psychologists should be diagnosticians or therapists. True, there are not enough psychiatrists in the services, but surely material such as is contained in this book cannot be of value in making psychologists into psychiatrists. Psychiatrists will always have to be medically trained personnel.

What Is Hypnosis: Studies in Auto and Hetero Conditioning. By Andrew Salter. Cloth. Price, $2. Pp. 88. New York: Richard R. Smith, 1944.

It is doubtful if the author ever really answers the question he proposes in the title of this book, but certainly he tries to do so. The experimental research work which he has done in conjunction with Dr. W. H. Gardner is both fascinating and instructive. Following Pavlov's studies on "conditioning reflex" reactions in animals, Salter has worked out a similar process with human beings which he prefers to call "associative reflex" reactions. At the present time hypnosis along with almost every tried (successful or unsuccessful) form of mental therapy is being employed in an attempt to aid or shorten the treatment of the neuroses and psychoneuroses. Well informed therapists have practically discarded its usage because it has been found that similar or even better results may be obtained from the use of sodium amytal or sodium pentothal and that the subject under treatment does not develop the close attachments to the therapist that are inevitable when hypnosis is employed. Salter mentions transference phenomena and the equating of the hypnotist with parental figures; but, while not denying that this theory has foundation in fact, he fails either to develop or to discuss this extremely important concept. The book may be quickly and profitably read by any one interested in the subject. It is well written, and the reader gets a clear picture of the conditioning processes which are described.

The Loom of Language. By Frederick Bodmer. Edited by Lancelot Hogben. Cloth. Price, $3.75; $4.75 (Canadian). Pp. 692. New York: W. W. Norton & Co., Inc.; Toronto: McLeod, Ltd., 1944.

As a companion volume to "Mathematics for the Million," by Lancelot Hogben, the publisher now offers a work along similar lines related to the growth of language. It is the belief of the author and the editor of this work that any one can learn languages, and they point out that the people of small nations, the Dutch, the Danes and the Norwegians, for example, begin early in life to acquire at least two languages because of the necessity for having the language of a large nation as well as their own. The book offers not only a history of the growth of language but some interesting technics for learning languages, including tricks of translation, key combinations of roots, phonetic patterns and selected lists of prepositions and pronouns in various languages to show variations in their use. Grammar also is considered as one of the stumbling blocks in learning languages. At a time when the world is becoming much more compact because of the war and developments in transportation, this can be considered an exceedingly useful and, in fact, necessary book.

Reports on Meeting of House of Delegates

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

CUTANEOUS LESIONS IN TUBERCULOSIS AND ERYTHEMA NODOSUM

To the Editor:—Is there any cutaneous lesion indicative of pulmonary tuberculosis in an adolescent girl? I am, of course, aware of the chronic tuberculous lesions of the skin usually found in adults which may occur with or without the pulmonary involvement.

Chancellor H. Whiting, M.D., New York.

ANSWER.—There is no cutaneous lesion indicative of pulmonary tuberculosis in an adolescent girl. Chronic tuberculous lesions of the skin usually found in adults, which may occur with or without pulmonary involvement is mentioned. There is also erythema nodosum, a red, nodular eruption usually occurring in the skin over the tibia but often on the rest of the lower extremities, the arms and infrequently on the chest. The lesions soon become elevated and painful. Within a few days to a few weeks they subside, and for a while a brown area of discoloration of the skin remains. Many persons believe that this is a manifestation of tuberculosis, although there are other causes. When it occurs with tuberculosis it is usually associated with a primary attack of the disease and most often appears three to seven weeks after the infection begins, at the time allergy reaches its height. Formerly it was seen most frequently in children because most children develop primary tuberculosis. However, in recent years in parts of the world in which primary tuberculosis develops more frequently in adults than in children, erythema nodosum has often been reported to accompany this condition in adults.

It has been frequently observed, particularly in the Scandinavian countries, among students of nursing, who enter the schools before they have been infected with tubercle bacilli, but who in the course of their training come in contact with tuberculous patients and develop primary tuberculosis. In some places 25 per cent or more of such students have been reported to have erythema nodosum about the time allergy reaches its height of development. In this country it appears in such students but in a much smaller percentage. The reason for this difference in incidence is not known.

In any event, the presence of erythema nodosum is not indicative of pulmonary tuberculosis. While tuberculous pulmonary infiltrations may be present in such cases and can be detected by x-ray film, the great majority do not have such lesions, or at least the lesions do not attain such proportions as to cast shadows. For the diagnosis of pulmonary tuberculosis in an adolescent girl the tuberculin reaction is a prerequisite. Usually evidence of a lesion can be detected by x-ray film, with the exception of (1) those which are not yet macroscopic, (2) those located in the 25 per cent of the lung not visualized on the film and (3) those which have not attained sufficient consistency to absorb x-rays. Even when a shadow is visualized on an x-ray film, one must constantly keep in mind that there are other causes of such shadows and therefore careful study is necessary by various methods to determine the cause of the lesion in question.

FECAL IMPACTION WITH FEVER AND LEUKOCYTOSIS

To the Editor:—Our medical staff has for long indulged in controversy over the causal relationship of fecal impaction, temperature elevation and leukocytosis. I would be grateful for a discussion in Queries and Minor Notes.

M.D., Illinois.

ANSWER.—Leukocytosis and elevation of temperature are not the rule in fecal impactions, although they may occur. Little is known concerning the mechanism. It is presumed that the accumulation of feces leads to a local irritation of the distended bowel, resulting in inflammation.

Mullarkey (R. E.: Surgical Significance of Fecal Impaction, *Northwest. Med.* **40**:118 [April] 1941) has reported 3 cases with leukocytosis up to 23,000 and fever up to 101 F. No other lesion was found to be responsible for the symptoms and findings, which rapidly disappeared after the impaction was relieved. Palmer (personal communication) has observed a similar case. The condition can resemble intestinal obstruction due to other causes and has to be considered in the differential diagnosis of acute surgical conditions in the abdomen.

CORACHAN METHOD OF SKIN GRAFTING

To the Editor:—I have noticed that the Norfolk Naval Hospital uses the Corachan method for skin grafting. Quotation from the newspaper follows: "The surgeon shaves a small ellipse of full thickness skin from any unburned portion of the patient's body and closes this wound with sutures. He then slices the excised skin into 70 to 80 small sections each about 1 mm. in width and places these strips on the burned surface." My questions are Why do they use only a small ellipse of full thickness skin? Kindly tell me if long straight narrow strips (about 10 inches long) were ever tried for this purpose. If not, what are the disadvantages? It seems to me that long strips would be advantageous and time saving and the wound can be quickly closed with a continuous dermal suture resulting in a linear scar, hardly noticeable. I have tried long strips in 2 cases with uniformly good results. In the Corachan method of skin grafting is any attempt made to place the grafts with the epidermal side upward? Where can I find the full details of the Corachan technic of skin grafting?

B. F. Glasser, Captain, M. C., A. U. S.

ANSWER.—The newspaper description of the Corachan method of skin grafting is evidently inaccurate. The necessary amount of the whole thickness of the skin to furnish the grafts without subcutaneous fat is excised in the shape of an ellipse, and the wound is closed in a line. Then this piece of skin is cut transversely into strips not thicker than 2 mm. and not longer than 1.25 cm. These pieces of skin are then laid flat on the granulations about 1 cm. apart, no attempt being made to have the epithelial surface upward. Small pieces are used, as the spread of epithelium from a number of smaller pieces is greater than from a single larger graft. Long narrow and long wide strips of whole thickness skin are frequently used successfully in suitable places but would not accomplish the desired purpose in the cases in which the Corachan method is usually employed. The details of the Corachan method can be found on page 298 of the Principles and Practice of War Surgery, by J. Trueta, St. Louis, C. V. Mosby Company, 1943.

HERPES ZOSTER IN INFANCY

To the Editor:—Can and does herpes zoster occur in adolescence and childhood?

Chancellor H. Whiting, M.D., New York.

ANSWER.—Authorities agree that herpes zoster occurs at all ages. It is, however, rare in infancy and more rare in the newborn. Freud, Rook and Gurian (Herpes Zoster in the Newborn, *Am. J. Dis. Child.* **64**:895 [Nov.] 1942) report a case in a 3 day old infant. They found reports in the literature of only 4 others in newborn babies. In 2 other cases the diagnosis of intrauterine herpes zoster was made from scars in typical arrangement present at birth. They quote Comby, who in an extensive pediatric practice for over forty years saw only 84 cases of zoster in children, the youngest 8 months old.

Freund, quoted by Schönfeld (Zoster und Herpes Simplex, Handb. d. Haut. u. Geschlechtskr. 7/1, Berlin, J. Springer, 1928, p. 32) studied the incidence of herpes zoster in the general population according to age. Below the age of 10 there were 43 cases in 10,000 persons. In the next decade there were 144, and from then on to old age there was little variation in incidence.

CAPILLARY ANGIOMAS OF FACE IN PREGNANCY

To the Editor:—What is the cause of the development of small capillary angiomas on the face during pregnancy? Actually are these related to pregnancy? Will they disappear on termination of the pregnancy?

Captain, M. C., A. U. S.

ANSWER.—The cause of the development of capillary angiomas on the face during pregnancy is unknown. It probably has no relationship to gestation. There is, however, some relationship between simple angiomas and sex, because such angiomas are distinctly more common in women than in men. Capillary angiomas which develop during pregnancy do not always disappear after delivery.

EPISCLERITIS

To the Editor:—What can be done to treat and prevent attacks of episcleritis, which, I am told, are simply part of a rheumatoid syndrome from which I have been suffering for the past twelve years. These bouts of episcleritis usually last from three to four days and are extremely annoying.

M.D., Illinois.

ANSWER.—If the episcleritis is not due to infection or tuberculosis, it is most likely due to allergy. The most frequent allergens encountered in this condition are foods or molds. Careful and complete studies should be made, including a diary of the diet to determine the cause. The offending agent should be eliminated if possible or the patient desensitized, or both. All other treatment is only palliative.